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THIRTY-NINTH ANNUAL REPORT

OF THE

# State Board of Health

OF

SOUTH CAROLINA

FOR THE

Fiscal Year, 1918

TO THE

LEGISLATURE OF SOUTH CAROLINA



COLUMBIA, S. C.  
GONZALES & BRYAN, STATE PRINTERS,  
1919.

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## LETTER OF TRANSMITTAL

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*His Excellency, Richard I. Manning, Governor of South Carolina, Columbia, S. C.*

Sir: I have the honor to hand you herewith the thirty-ninth annual report of the Executive Committee of the State Board of Health and request that you transmit it to the General Assembly.

While the report speaks for itself I respectfully beg leave to call attention to a few matters which seem to be of especial importance.

The examinations made by the various draft boards under the selective service law have revealed a serious degree of physical deficiency among the registrants. Many of the defects found could have been remedied if discovered early in childhood. This condition emphasizes the great need for the establishment of a Bureau of Child Welfare which we urge most strongly. The functions of this bureau will include the registration of all births; the pre-natal care of children; the medical inspection of school children and the establishment of clinics for correcting the defects found among school children. The activities of the bureau would exert a far-reaching influence, strengthening the manhood and womanhood of the next generation. Surely no matter of greater importance can claim the attention of the General Assembly.

It is also the desire of the Board of Health to establish a bureau for the control of venereal diseases, the insidious operations of which more than any other, perhaps, threaten to impair the vitality of the nation. This gigantic problem has baffled the wisdom of the ages, but nevertheless our government is making a bold and serious effort along well considered lines to reach a rational solution and it behooves us to co-operate to the fullest extent of our ability.

We also urge a larger appropriation for the control of communicable diseases. Experience has demonstrated that such diseases as smallpox, diphtheria, scarlet fever, typhoid fever, epidemic meningitis, tuberculosis and all germ diseases are susceptible of control under intelligent direction. No health officer, however, can carry on such work effectively unless ample provision be made to supply necessary funds, and while our State Health Officer has done splendid work and his efforts have been rewarded



by large results, he could have accomplished far more had his financial support been greater.

One of the most important steps for the control of communicable diseases is the reporting of cases which occur, and we regret to confess that the medical profession is largely responsible for placing a serious handicap upon the Health Officer by neglecting to obey the laws. The Health Officer pleads for the co-operation of the non-medical men of the State to develop an overwhelming sentiment which shall compel physicians to carry out the law.

A work of enormous value has been accomplished along lines of rural sanitation and a bill has been introduced by Congressman Lever to provide Federal aid for this work. In the meantime, however, it is incumbent upon the State to continue the work now being done for the betterment of conditions in rural communities.

It is gratifying to call attention to the splendid success of our tuberculosis sanatorium, an institution for which every citizen of South Carolina should feel justly proud. The campaign against tuberculosis is yielding results as is shown by the gradual reduction in the deaths from this disease in South Carolina.

Respectfully,

ROBERT WILSON, JR.,

Chairman Executive Committee of the State Board of Health.

## GENERAL REPORT

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This is the thirty-ninth annual report of the Executive Committee of the State Board of Health, and is for the year ending December 31st, 1918.

This report is made in compliance with the Concurrent Resolution, which directs that every officer of the departments of the State government required by law to make a report to the General Assembly shall contain only concise statements of recommendations and of the transactions of the officer of the department; and that no copy of any report, or document, or law, or proposed measure shall be made and printed at the expense of the State except what shall be absolutely necessary for the information of the General Assembly.

### EXECUTIVE COMMITTEE STATE BOARD OF HEALTH.

Robt. Wilson, Jr., M. D., Chairman.....	Charleston
D. B. Frontis, M. D.....	Ridge Spring
C. C. Gambrell, M. D. (Now Captain in M. C. U. S. A.)	Abbeville
E. A. Hines, M. D.....	Seneca
W. J. Burdell, M. D. (Captain in M. C. U. S. A.).....	Lugoff
Wm. Egleston, M. D. (Captain in M. C. U. S. A.)....	Hartsville
W. M. Lester, M. D.....	Columbia
W. W. Dodson, Phg.D.....	Greenville
Sam'l. M. Wolfe, Attorney General.....	Columbia
R. L. Osborne, Comptroller General.....	Columbia
James A. Hayne, M. D. (First Lieut. M. C. U. S. A.)....	

Secretary and State Health Officer, Columbia.

### STAFF OF SOUTH CAROLINA DEPARTMENT OF HEALTH, EXECUTIVE DEPARTMENT.

James A. Hayne, M. D., Executive Officer of State Board of Health.

J. P. Tompkins, Clerk.

John Roundtree, Janitor.



## DEPARTMENT OF RURAL HEALTH WORK.

- \*L. A. Riser, M. D. (Captain M. C. U. S. A.), Director.  
 E. W. Grieshaber, Stenographer.  
 V. W. Brabham, M. D., Acting Director.  
 \*F. M. Routh, M. D. (First Lieut. M. C. U. S. A.), Field Director.  
 C. H. Verner, M. D., Field Director.  
 Karl L. Able, M. D., Field Director.  
 \*Robt. H. Folk, M. D. (First Lieut. M. C. U. S. A.), Field Director.  
 D. D. Kinard, M. D., Field Director.  
 S. F. Blakely, M. D., Field Director.

## SANITARY INSPECTORS AND COUNTY HEALTH NURSES FOR RURAL COMMUNITY WORK.

- |                            |                                |
|----------------------------|--------------------------------|
| Jas. P. Doyle, Inspector.  | H. F. Schiffley, County Nurse. |
| Wm. Bodie, Inspector.      | A. Field, County Nurse.        |
| Nobles Daniels, Inspector. | A. J. Hill, County Nurse.      |
| R. C. Roof, Inspector.     | Lillian Mack, County Nurse.    |
| W. Gardner, Inspector.     | Syrene Simons, County Nurse.   |
| Henry Perkins, Inspector.  | Nora Hamner, County Nurse.     |
| Chas. Faris, Inspector.    | Clara T. Bloom, County Nurse.  |

## LABORATORY DEPARTMENT.

- F. A. Coward, M. D. (Captain M. C. U. S. A.), Director.  
 Jas. R. Cain, Acting Director.  
 E. W. Ayer, Laboratory Assistant.  
 H. M. Smith, M. D., Assistant Bacteriologist.  
 M. C. Davis, Stenographer.  
 F. L. Parker, M. D., Chemist and Bacteriologist, Charleston.

## BUREAU OF VITAL STATISTICS.

- C. W. Miller, Chief Clerk.  
 P. T. Washington, Filing Clerk.  
 M. Lindsay, Index Clerk.  
 M. Currell, Stenographer.  
 M. Robottom, Transcript Clerk.

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Note:—\*In service.

## SOUTH CAROLINA SANATORIUM.

Ernest Cooper, M. D., Superintendent.

W. Rivers Claytor, M. D., Physician and Asst. Superintendent.

Clara Wood, Matron.

Carrie Spivey, Head Nurse.

A. I. Rembert, Field Secretary.

Four Pupil Nurses.

Servants.

## DEPARTMENT OF VENEREAL DISEASE CONTROL.

C. V. Akin, M. D., P. A. Surgeon, U. S. Public Health Service,  
Director.

Fannie Winter, Stenographer.

## MEETINGS.

The Executive Committee of the State Board of Health, in addition to its regular quarterly meetings, held four called meetings.

## THE BOARD'S QUARTERS.

The Executive Department of the State Board of Health and the Department of Venereal Disease Control, occupy rooms on the fifth floor of the Palmetto building.

The Laboratory remains in well arranged rooms furnished by the University of South Carolina, in LeConte College.

The Bureau of Vital Statistics is at the University of South Carolina in LeConte College.

The South Carolina Sanatorium for the treatment of Tuberculosis is at State Park, eight miles from Columbia.

## MISCELLANEOUS.

All activities of State Departments for the year 1918 were overshadowed by the great fact that South Carolina, as a component part of the United States, was engaged in doing everything possible to win the great war. When our last annual report was being written this country had just commenced to fight and camps for the army were just being completed and laborers were still employed in carrying out these important works. Soldiers were flocking into the State from all the surrounding States. It was



predicted that the next year would be a year that would call for all the resources of the Health Department to combat the numerous contagious diseases which we felt sure would arise from the changed conditions in this State. This proved to be a true prediction for hardly had the year 1918 been born before the State Board of Health was confronted with a State-wide epidemic of Cerebro-Spinal Meningitis. Camp Jackson, situated near Columbia, suffered more than any other camp from this disease. Early in December of 1917 Cerebro-Spinal Meningitis made its appearance, following in the wake of a severe epidemic of measles.

It is not becoming for this department to criticise or to suggest what might have been done by the army to prevent the infection of the civilian population of South Carolina. The fact remains that the civilian population did become infected; that this infection spread along the routes of the railway lines and that but few counties in the State escaped the ravages of the disease. Had it not been for the able assistance of the United States Public Health Service in visiting the cases, administering serum, and taking cultures of the nose and throat to determine carriers, we do not know how many cases might have resulted. In another part of this volume we have a report of Cerebro-Spinal Meningitis. Suffice it to say that 171 persons died from this disease—this in contrast to 33 deaths in 1917 and 20 deaths in 1916.

The State Board of Health was called upon to furnish this serum. No extra appropriation had been made for the same, but \$2,930.40 was spent out of the already insufficient appropriation for the control of communicable diseases.

After this epidemic was under control, it lasting for a period of about four months, there were no further serious epidemics until September 18th, when the State was overwhelmed by the pandemic of influenza. A full report of this epidemic is also to be found in the following pages of this volume. It will serve its purpose as an object lesson to the General Assembly of how unprotected this State is against epidemics. Only two counties in the State, Greenville and Spartanburg, have health officers. No machinery is provided for taking care of rural communicable diseases. Towns and cities have their Boards of Health, health officers, and all of the necessary adjuncts of a Department of Health, but rural communities have no constituted authorities to turn to when threatened with epidemics or when communicable diseases exist in large numbers. It has been the strenuous effort

of the State Board of Health to bring to the minds of the people of the counties the necessity of health organizations. In Greenwood, Darlington, Orangeburg and Lexington counties, the forces that were engaged in rural sanitation, paid by the State, county and International Health Commission, stopped all other work and did what they could in the influenza situation. The State Health Officer, through the sheriffs of the various counties, was able to put on a quarantine which was effective—made effective, however, by the fears of the people and not because there was adequate machinery for carrying out the law. Over 6,100 men, women and children died—a fearful loss to the State—many, many more lives than were lost in the army or in the navy from South Carolina during this World War.

However, when we look back upon the epidemic which we have just passed through, certain facts stand out. One of the most striking of these is that when an epidemic threatens colleges and universities whose students can be kept on the campus and rigidly quarantined the students are safer there than in their homes; that the closing of these institutions should not be brought about except after most careful consultation with the health authorities. Winthrop College, with approximately 1,000 girls, in the first outbreak of influenza did not have any severe cases and but few mild ones. The Citadel, which was closed as soon as the outbreak occurred, had a great many cases and these cases occurred almost as soon as the cadets reached their homes, they having evidently contracted the disease while en route on railway trains. They thus not only took the disease themselves but they conveyed it and spread it to the remotest parts of the State as the cadets come from every county in South Carolina.

Another lesson that we learned was that this disease was carried principally by close contact on railway trains, spreading later to the rural communities by contact in crowded stores, moving picture shows, etc.

Influenza still prevails in South Carolina. It is estimated that there were 200,000 cases in the State. This leaves about 1,600,000 people who have not yet had the disease. It is feared that relaxation of precautions will continue to spread the disease.

We feel that the education of the children of this State is so necessary that schools should not be closed even though risk is run in allowing them to remain open. We feel that people can do without theaters, moving picture shows, crowding in stores and



can worship God without going to church. We, therefore, recommend that the order of closing by a Board of Health in a city be first theaters and moving picture shows, next the prevention of over-crowding in stores, next the closing of churches and finally the closing of schools if the epidemic still persists.

This year showed only 46 deaths from Diphtheria out of a total number of 765 cases for the first ten months of the year. This is a very small number of cases and also indicates a small death rate. We attribute this striking reduction in deaths from Diphtheria to the free distribution of Diphtheria Anti-toxin to all citizens of South Carolina.

We are again glad to report that there have been no deaths from smallpox, this making two years without a death in this State.

It is also gratifying to note the decrease in the deaths from Pellagra which has shown a steady decrease since it first made its appearance. We are, however, surprised at this decrease as we were led to suppose that restrictions placed upon foodstuffs and properly balanced rations by the food commission would have resulted in an increase in the number of deaths. Meat having been very high priced for the last year and meatless days having been the rule rather than the exception, we can not see how these figures balance with the assumption of Dr. Goldberg of the United States Public Health Service that Pellagra is a disease due entirely to an unbalanced ration. There were 497 deaths from Pellagra against 544 the year before when foodstuffs were in great abundance in South Carolina. We believe, however, that the lowering of the death rate from Pellagra is due to a better understanding of the cause and cure of the disease and also because the death rate at the State Insane Asylum, which furnished a large number of Pellagra deaths, is much lower under the present management.

We have had but 7 deaths this year from Infantile Paralysis against 8 deaths last year.

The death rate of Tuberculosis this year is slightly lower, there having been 1,326 deaths for the first nine months of the year. We are still doing what we can to educate the public in regard to Tuberculosis. We have sent a pamphlet on Tuberculosis entitled "What you should know about Tuberculosis" to every school in the State and requested that it be used as a textbook in the high schools. The State Superintendent of Education has endorsed

this plan and we hope that it will bring about a real education of the children in regard to this disease.

We are very proud of our State Sanatorium, situated eight miles from Columbia on a high, dry, sand hill where the patients have the maximum of sunshine and are able to take the three essentials in the cure of this disease, namely, rest, sunshine, and good food. Dr. Cooper's report will be found elsewhere in this volume.

We hope that the General Assembly will send a committee to visit this institution which has been pronounced by experts a model sanatorium in miniature. We believe that it is the best equipped sanatorium for the treatment of Tuberculosis in the South. It can accommodate but 56 patients although its well lighted dining room will comfortably seat 100 people. We hope that the Legislature will allow us to perfect the plans that we have made for enlarging and maintaining this institution.

The negroes of South Carolina are raising a fund to build a sanatorium for the treatment of Tuberculosis among negroes, and ask that the Legislature appropriate an equal sum. Surely this modest request should be granted, for unless we assist the colored race in stamping out Tuberculosis among themselves, we can never hope to eradicate it in the white race.

We wish to again call the Legislature's attention to the fact that the State Board of Health should have on its personnel a sanitary engineer. This we regard as one of the greatest deficiencies of our Board. South Carolina, above all States, needs competent supervision of sewage disposal and intelligent direction of drainage projects to prevent malaria and to reclaim parts of the State that are very fertile and yet are uninhabited or sparsely settled on account of malaria. What can be done in the way of the prevention of malaria is illustrated by what has been done in reclaiming the site of Camp Jackson. This was a swamp and yet after the work was completed by Sanitary Unit No. 1 of the Red Cross, directed by Dr. Friench Simpson of the United States Public Health Service, only one case of malaria developed among the thousands of soldiers at Camp Jackson.

This brings us to speak of the work done by the United States Public Health Service in the extra cantonment areas. These were set aside under resolution passed by the Board last year. The financing of the work done in these extra cantonment areas was jointly furnished by the Red Cross and the United States



Public Health Service. Much money has been spent and much good accomplished. As an object lesson as to what can be done by a properly financed Board of Health, the report of Dr. Simpson on the work done in Columbia is appended to this report.

The regulations passed for the government of these cantonment areas are very comprehensive and much good has been accomplished. Among the objects achieved has been the pasteurization of milk. Pasteurized milk is regarded by sanitarians as the best solution for the prevention of milk borne diseases. Among these diseases may be mentioned typhoid fever, scarlet fever, diphtheria and tuberculosis. At present in Greenville, Spartanburg and Columbia pasteurized milk is served in all restaurants and hotels patronized by soldiers. It is hoped that this pasteurization of milk will be continued by the health departments of cities when the sanitary units paid by the Red Cross and the United States Public Health Service leave.

### *Epidemic Diseases.*

The three diseases which have been most prevalent in this State in the past year in epidemic form have been measles, cerebro-spinal meningitis and influenza. Seventy-five deaths are attributed to measles, 171 to cerebro-spinal meningitis, and about 6,100 to influenza. Of the other communicable diseases there have been 46 deaths from diphtheria, 497 from pellagra, 7 from infantile paralysis, 3 from scarlet fever, 365 from typhoid fever and 224 from whooping cough. This report compares very favorably with last year's report and we believe that there will be a gradual lowering of the death rate from these diseases.

For the first nine months of the year—from January 1st to September 30th—there were 18,207 deaths and 32,459 births. These deaths do not include the month of November, which shows a total death rate of 6,192, so that in November alone more than one-third of the total deaths for the first nine months of the year occurred.

### *Vital Statistics.*

The Bureau of Vital Statistics is functioning well and has been called upon this year many times for birth and death certificates, especially as the government has required a birth certificate as the best proof of legitimacy before it would pay allotments made by soldiers. The Red Cross home service has been very particular in its rendering of aid to the families of indigent

soldiers to find out whether the children for whom support was claimed were registered. It has furnished us the only available data as to the extent of any epidemics that have been in the State. It has shown us the necessity of a Bureau of Child Hygiene, because the deaths among children under two years of age has been far above the average death rate in other States. We feel that something has to be done to improve this situation. Another point brought out by vital statistics has been the appalling number of deaths of mothers during parturition and pregnancy. From January 1st to September 30th, 1918, there were 262 mothers who died attended by doctors and 35 unattended by physicians. When we read between the lines, we see what this means. A total of 297 deaths out of 32,459 births shows a percentage of approximately 1 per cent. This is appalling, for any maternity hospital that has a death rate of one woman out of every 1,000 births is considered to have an altogether too high death rate. We consider that the women brought into maternity homes are either of the poor or of those who have been in labor for some time and are brought there for relief. We can see that for South Carolina to have ten times as many women to die during parturition and pregnancy means that something is radically wrong with our system. We allow dirty, ignorant women to proclaim themselves capable of taking care of mothers at this time when they should have the most skillful care and attention. There is no midwife law in South Carolina. No one, no matter how ignorant she may be, is debarred from calling herself a midwife. They are neither licensed, nor inspected, nor do they know anything in regard to what is necessary to preserve life under these circumstances. It is certain that of the 300 mothers who died, at least two-thirds of the children born at that time also died from simple neglect. For this reason we are going to urge upon the Legislature the establishment of a Bureau of Child Hygiene. The functions of this bureau will be:

1. Registration of births.
2. Pre-natal care of children.
3. Medical inspection of school children.
4. The establishment of clinics for remedying the defects found in the medical inspection of school children.

A fuller account of this proposed bureau will be found in other pages of this volume.



### *Laboratory.*

A full report of this work will be found elsewhere in this volume. Dr. F. A. Coward patriotically offered his services to the government and has been in France most of the past year. Mr. Jas. R. Cain and Dr. H. M. Smith have carried on the work. The Wassermann tests have grown in number and will continue to increase as we conduct the campaign against venereal diseases.

Typhoid bacterin has been sent out in large quantities, we having spent \$2,500. Immunizing doses have been furnished the many physicians.

Pasteur treatment for rabies is furnished free and miscellaneous examinations of blood, sputum, etc., are made.

This department deserves more support than it has received from the General Assembly, for the laboratory is to the physician what the Bureau of Vital Statistics is to the sanitarians, for it furnishes them with eyes so that they may not be blind to conditions which may exist in their patients.

### *Department of Rural Health Work.*

This department received from the Legislature an appropriation of \$14,500 for this year—the largest appropriation that has yet been given. The work has been done in Orangeburg, Darlington, Lexington, and Greenwood counties. An appropriation of \$14,500 was also made by the International Health Board, and the four counties mentioned appropriated \$11,000, making a total appropriation of \$40,000. This has been spent in endeavoring to arouse the sanitary conscience of the rural communities to the necessity of protecting their health, and with the hope that each county may establish an efficient department of public health. The need for such a department has been emphasized in the great epidemic through which we have just passed. Only two counties in the State, Greenville and Spartanburg, have health officers. Dr. L. A. Riser, who has been in charge of this department, has entered the medical department of the army and Dr. Vance W. Brabham has efficiently taken his place as director of rural sanitation. A careful reading of Dr. Brabham's report found elsewhere in this report will be of interest to the General Assembly.

### *Executive Department.*

As this department is under the State Health Officer and as he is writing this report, he feels a delicacy in mentioning the different things done by this department. Suffice to say that it is a

busy office. From it is distributed diphtheria anti-toxin, small-pox virus, typhoid bacterin, and meningitis serum. Reports of epidemics and contagious diseases are received, advice given and bulletins, printed on different health topics, are distributed upon request.

The State Health Officer has made many trips throughout the State. He has attended all of the important medical meetings held in various parts of the country. Concise reports of these trips are appended.

#### *Foods and Drugs.*

This important work, namely the carrying out of the pure food and drug law, devolves upon the Department of Agriculture, but the regulations governing the carrying out of the law are formulated by the State Board of Health. We believe that cooperation between these departments would effect much good in improving the situation in this State. Laws should be enacted to prevent the sale of alcohol as an intoxicant, disguised under the name of some patent medicine, or as Jamaica ginger, bay rum, or lemon extract. Much drunkenness and crime occurs in this State on account of the greed of some druggists in selling these intoxicants.

It is believed that this General Assembly will enact laws adequate to deal with this situation.

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### REPORT ON EPIDEMIC AND CONTAGIOUS DISEASES OCCURRING IN SOUTH CAROLINA DURING 1918, BY JAMES A. HAYNE, CHAIR- MAN OF COMMITTEE.

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#### *Smallpox.*

Nineteen-eighteen did not show any marked increase in the number of cases of this disease occurring in South Carolina, but in September and October of this year there was quite a severe epidemic in Laurens County, there being reported to this office 69 cases. The total number of cases of smallpox reported was 180, this being less than the number of cases reported in 1917.

We have distributed vaccine virus as follows: 11,890 points at 4 1-4 cents per point and 15,710 points at 8 cents per point. The fact that this was the lowest bid that we could get on vaccine virus made the expense of distributing same larger for this year than for the previous years. The payment made for smallpox vaccine virus for the first quarter was \$340.00, for the second



quarter, \$105.40, for the third quarter, \$908.80, and for the fourth quarter \$720.00.

These figures show that there are still a large number of people who have not yet been vaccinated, and that vaccination of school children is being more generally carried out.

The following doctors were appointed as special agents for the State Board of Health, under Section 2 of Act 434, approved the 22nd day of February, 1905: Dr. B. H. Baggott, Columbia, S. C., M. J. Walker, York, S. C., and T. P. Glenn, Greenville, S. C.

### SCARLET FEVER.

This disease still continues in a mild form. Very few deaths have been reported as occurring from scarlet fever but we know that many deaths are due to other diseases produced by scarlet fever.

We repeat that the following measures should be carried out in the face of an epidemic:

1. Daily examination of exposed children and of possibly exposed persons for a week after last exposure.
2. Schools should not be closed where daily observation of the children by a doctor or nurse is available.
3. Education as to special danger of exposing young children to those exhibiting acute catarrhal symptoms of any kind.
4. Pasteurization of milk supply.

From January to the last of October, there were 81 cases of scarlet fever reported, with three deaths.

The following counties reported cases: Abbeville 2; Aiken 1, Charleston 6, Chesterfield 15, Dillon 1, Florence 7, Greenville 12, Kershaw 1, Lancaster 1, Newberry 1, Richland 9, Spartanburg 18, Sumter 2, Williamsburg 1, York 4.

As we have said year after year in making our report to the Legislature, we can do nothing towards stamping out contagious diseases until the layman forces the physician to report contagious diseases. At present the physician, for fear of losing his practice, or through laziness, or whatever may be the cause, absolutely fails to report contagious diseases, and the Health Officer is powerless to prevent epidemics. The General Assembly of South Carolina has done its best to make the reporting of contagious diseases necessary, has passed a stringent law requiring such reporting, but yet reports are not made and health officers grope in the dark for accurate knowledge of the existence of epidemic diseases.

*Diphtheria.*

This year's report on diphtheria will show a reduction in the number of cases as compared with last year. The total number of cases of diphtheria treated with diphtheria anti-toxin last year up to October 31st was 1,145. This year we have a total of 765. This is the lowest case rate from diphtheria of any State in the Union. The death rate as reported for the first ten months is only 46.

The following table shows the monthly incidence, by counties, of cases diagnosed as diphtheria and receiving the anti-toxin:

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	Total.
Abbeville		1					1		3	4		9
Aiken				3	3				2			4
Anderson				3	3		2	1	16	2		29
Bamberg												
Barnwell	1		1	3								10
Beaufort	2											2
Berkeley												
Calhoun							1					1
Charleston	6	18	2	23	3	3		2	2	1		71
Cherokee	3		3	3								9
Chester			1									1
Chesterfield	1			5	2		4	11	8			31
Clarendon									4			4
Colleton									17			17
Darlington		2			1		2		1			6
Dillon			1	4			2		2			9
Dorchester	2						7		2	3		14
Edgefield		2							1	1		4
Fairfield												
Florence	5	1						2		13		21
Georgetown	1		2									3
Greenville				2	1		2	5	11	16		35
Greenwood	2	1					3		2			12
Hampton				1			1					2
Horry	2			1					6			9
Jasper												
Kershaw					6							6
Lancaster			1				3	2				6
Laurens				1					2	1		4
Lee	1	2					2					5
Lexington	1		2	12			1		1	5		23
Marion	3	1					3	2	8	3		20
Marlboro	3			7	6		2		2	1		21
Newberry	1						1		6			8
Oconee	7		3					4	24	9		47
Orangeburg	5	5	3	1	2		3		8	1		28
Pickens	4		3		1				6			14
Richland	15	3	16	8	3	2			8	3		58
Saluda	1		2	1			2		9			15
Spartanburg	7	4	9	9	6	1	6	10	29	4		85
Sumter	13		7	3			1	1	2			29
Union	12	5	2	4			2		11			36
Williamsburg				1	5			1	3	1		11
York	1				3		3		21	1		29
Total	99	45	68	93	51	8	50	34	220	79		765



The amount of diphtheria anti-toxin consumed as compared with 1917 is as follows:

1917	1,000 Units	3,000 Units	5,000 Units	10,000 Units	1918	1,000 Units	3,000 Units	5,000 Units	10,000 Units
January . . .	58	33	95	38	January . . .	55	37	106	51
February . . .	25	11	81	25	February . . .	23	8	54	50
March . . . .	33	20	97	29	March . . . .	35	20	76	48
April . . . .	45	18	81	29	April . . . .	34	31	102	102
May . . . . .	23	22	87	26	May . . . . .	23	11	50	31
June . . . . .	48	30	133	29	June . . . . .	35	52	70	66
July . . . . .	38	30	46	15	July . . . . .	37	7	49	37
August . . . .	146	79	210	64	August . . . .	99	25	140	85
September . .	181	90	226	99	September . .	134	41	217	170
October . . .	193	96	312	130	October . . .	81	22	110	42
November . .	194	114	252	169	November . .	82	31	130	108
December . .	103	40	116	100	December . .	81	34	124	118
	1,087	583	1,736	724		719	319	1,228	908

The expenditures for diphtheria anti-toxin as compared with 1917 is as follows:

1917.		1918.	
January . . . . .	\$ 369 45	January . . . . .	\$ 340 90
February . . . . .	258 90	February . . . . .	221 65
March . . . . .	316 95	March . . . . .	265 25
April . . . . .	289 45	April . . . . .	449 35
May . . . . .	286 35	May . . . . .	171 00
June . . . . .	404 60	June . . . . .	331 65
July . . . . .	148 30	July . . . . .	279 85
August . . . . .	601 15	August . . . . .	725 70
September . . . .	735 35	September . . . .	1,260 95
October . . . . .	951 75	October . . . . .	482 55
November . . . .	1,017 70	November . . . .	789 10
December . . . . .	498 05	December . . . . .	802 05
	\$5,878 00		\$6,120 00

The contract with E. R. Squibbs & Sons Company, of New York, was terminated on June 30th as they did not make as low a bid as the year before and the bid made by National Vaccine and Anti-toxin Institute secured a more satisfactory distribution of the anti-toxin.

## DIPHTHERIA ANTITOXIN DISTRIBUTORS

## ABBEVILLE COUNTY.

Abbeville .....McMurray Drug Co.  
 Donalds .....Donalds Drug Co.  
 Due West.....J. H. Bell & Son

## AIKEN COUNTY.

Aiken.....W. J. Platt & Co.  
 Graniteville.....E. E. Platt, W. C. R. Turnbull  
 Lake View.....Smith's Drug Store  
 Langley.....Smith Drug Co., J. F. Baker  
 North Augusta.....T. G. Kirshaw  
 Salley.....People's Pharmacy

## ANDERSON COUNTY.

Anderson.....Owl Drug Co., Evans Pharmacy  
 Belton.....Horton's Pharmacy  
 Honea Path.....Bolt Drug Co.  
 Iva.....Iva Drug Co.  
 Pelzer.....W. W. Griffin  
 Pendleton.....E. G. Evans & Sons  
 Townville.....S. A. Wideman  
 Williamson.....Buford-Griffin Co.

## BAMBERG COUNTY.

Bamberg.....Mack's Drug Store  
 Denmark.....Denmark Drug Co.  
 Ehrhardt.....Copeland & Farrell  
 Olar.....R. & H. Drug Store

## BARNWELL COUNTY.

Allendale.....R. P. Searson Drug Co.  
 Barnwell.....Mace Drug Co.  
 Blackville.....Wessinger's Pharmacy  
 Fairfax.....Isaac Knops Drug Store  
 Williston.....J. M. Smith & Son

## BEAUFORT COUNTY.

Beaufort.....C. G. Luther  
 Port Royal.....M. B. Cope

## BERKELEY COUNTY.

Monck's Corner.....Monck's Corner Drug Store

## CALHOUN COUNTY.

St. Matthews.....Fair's Pharmacy  
 Fort Motte.....Fort Motte Drug Co.



Charleston .....G. W. Aimar & Co., D. P. Frierson,  
C. F. Schwettman & Son, W. H. Zeigler, L. G. Melfi  
Mount Pleasant.....A. H. Patjens

Blacksburg .....	Carolina Drug Co.
Gaffney.....	Gaffney Drug Co.

Chester ..... Chester Drug Co.

Cheraw.....	T. E. Wannamaker & Sons
Chesterfield.....	D. H. Laney
Jefferson.....	People's Drug Co.
McBee.....	McBee Drug Co.
Pageland .....	Pageland Drug Co.

Jordan.....	L. W. Nettles, M. D.
Manning.....	Dickson's Drug Store
Paxville.....	Thomas W. Gunter
Summerton.....	Summerton Drug Co.
Turbeville.....	C. E. Gamble
New Zion.....	E. B. Gamble, M. D.

Walterboro.....Walterboro Drug Co.

Darlington.....	People's Drug Co.
Hartsville.....	Robert Stewart, Jr.
Lamar .....	Palmetto Drug Co.

Dillon.....	Evans Pharmacy, McLaurin Drug Co.
Latta.....	E. A. Bethea
Page's Mill.....	Smith's Pharmacy

St. George.....P. M. Judy  
Summerville.....Tupper Pharmacy Co.

Edgefield.....Penn & Holstein  
Johnston.....People's Drug Co.

## FAIRFIELD COUNTY.

Blythewood ..... M. Langford  
 Ridgeway..... B. G. Team, M. D.  
 Winnsboro..... J. H. McMaster & Co.

## FLORENCE COUNTY

Florence..... F. U. Lake Drug Co.  
 Lake City ..... Lake City Drug Co.  
 Scranton..... W. S. Lynch  
 Timmons ville..... Marvin Drug Co., Cole Drug Co.

## GEORGETOWN COUNTY.

Georgetown..... Iseman Drug Co.

## GREENVILLE COUNTY.

Fountain Inn..... Redick's Pharmacy  
 Greenville..... Carpenter Bros., L. H. Stringer  
 Greer..... Corner Drug Co.  
 Piedmont..... Suber Drug Co.  
 Simpsonville..... Simpsonville Drug Co.

## GREENWOOD COUNTY.

Greenwood..... Crawford Drug Co., Greenwood Drug Co.  
 Ninety-Six..... Barr Drug Co.  
 Ware Shoals..... Ware Shoals Mfg. Co. (Drug Dept.)  
 Troy..... Troy Drug Store

## HAMPTON COUNTY.

Estill..... Estill Pharmacy  
 Hampton..... Charles A. Rush

## HORRY COUNTY.

Conway..... Conway Drug Co.

## JASPER COUNTY.

Ridgeland ..... A. Ritters, Jr.

## KERSHAW COUNTY.

Bethune..... Bethune Drug Co.  
 Camden..... W. R. Zemp

## LANCASTER COUNTY.

Heath Springs..... W. T. Stover & Sons.  
 Kershaw..... Hayes & Gregory  
 Lancaster ..... Standard Drug Co.

## LAURENS COUNTY.

Clinton..... City Pharmacy.  
 Gray Court..... Gray Court Drug Co.  
 Laurens..... Powe Drug Co.



## LEE COUNTY.

Bishopville.....Parker Drug Co.

## LEXINGTON COUNTY.

Batesburg.....Ridgell Drug Co.  
 Chapin.....J. W. Eargle  
 Leesville.....Citizens' Drug Co.  
 Lexington.....Harmon Drug Co.  
 Pelion.....D. R. Kneece  
 Swansea.....J. R. Langford

## MARION COUNTY.

Marion.....J. S. Davis  
 Mullins.....Palace Drug Co., Kirby's Pharmacy  
 Nichols.....Moody's Drug Store

## MARLBORO COUNTY.

Bennettsville.....Douglas & Breedon  
 Blenheim.....Napier's Drug Store  
 Clio.....McLeod's Pharmacy  
 McColl.....Moore Drug Co.

## NEWBERRY COUNTY.

Little Mountain.....J. M. Sease  
 Newberry .....Gilder & Weeks, W. G. Mayes Drug Store  
 Prosperity.....Prosperity Drug Co.

## OCONEE COUNTY.

Clemson College.....L. C. Martin  
 Fairplay.....W. C. Mays  
 Seneca .....Seneca Pharmacy  
 Walhalla.....Dr. J. W. Bell  
 Westminster.....Stonecyplier Drug Co.

## ORANGEBURG COUNTY.

Branchville.....W. F. McKewn  
 Elloree.....P. L. Felder  
 Eutawville.....E. O. Horger  
 North.....People's Drug Store  
 Orangeburg.....J. G. Wannamaker Mfg. Co.  
 Springfield.....Springfield Drug Co.

## PICKENS COUNTY.

Central.....Central Drug Co.  
 Easley.....Palmetto Pharmacy  
 Liberty.....Hunter's Pharmacy  
 Pickens.....Pickens Drug Co.

# RICHLAND COUNTY.

Columbia....Blanding Street Drug Store, McGregor's Drug Store,  
Taylor Drug Co., Wingfield's Pharmacy  
New Brookland.....Burnett & Whetsell

# SALUDA COUNTY.

Ridge Spring.....Ridge Drug Co.  
Saluda.....Saluda Drug Co.

# SPARTANBURG COUNTY.

Campobello.....Campobello Drug Co.  
Converse.....People's Drug Store  
Cowpens.....Cowpens Drug Co.  
Inman.....Inman Drug Co.  
Landrum.....W. M. Lambright  
Pacolet.....Pacolet Mfg. Co.  
Spartanburg.....Arthur Irwin, Ligon's Drug Store,  
K.-W.-N. Pharmacy, Todd Drug Co.  
Woodruff.....O. E. Westmoreland

# SUMTER COUNTY.

Mayesville.....King & Gardner, Bradley & Thomas  
Sumter.....Sibert's Drug Store

# UNION COUNTY.

Jonesville.....Jonesville Drug Co.  
Union.....People's Drug Store, Glymph's Pharmacy  
Carlisle.....Carlisle Drug Co.

# WILLIAMSBURG COUNTY.

Greelyville.....Rogers Drug Store  
Johnsonville.....Cockfield Drug Co.  
Kingstree.....Gamble & Jacobs, Kingstree Drug Co.

# YORK COUNTY.

Clover.....Clover Drug Co.  
Fort Mill.....Ardrey Drug Store  
Rock Hill.....Rock Hill Drug Co.  
Sharon.....Sims Drug Co.  
Yorkville.....York Drug Co.

## *Typhoid Fever.*

This disease is said to be the index of the civilization of a community. This is well said because of the known cause of the disease. Typhoid fever can not be contracted except from swallowing the discharges from some other case of typhoid fever and it is inconceivable that any civilized people could be so careless or so



uncleanly as to be willing to do this. We believe that the education which we have carried on in this State in regard to the causation of typhoid fever is bearing fruit. However, there were 365 deaths from typhoid fever for the first nine months of this year. Allowing 10 cases to each death, we have a total number of 3,650 cases as compared with 3,960 last year. To show how neglectful the physicians are of their obvious duty of reporting communicable diseases, we have only 741 cases of this disease reported. There is perhaps some excuse for not reporting diseases that last only a short time, but certainly no physician can plead that during the month or six weeks that a person is ill with typhoid fever that he did not have time to make a report of same.

There are two methods of ridding the State of typhoid fever, first, by inoculation with typhoid bacterin of all citizens of the State, and second, by sanitation of homes. We are trying both methods and with some success in the counties that are alive to the dangers of soil pollution. These counties this year are Orangeburg, Darlington, Lexington and Greenwood. The severe epidemic of influenza has interfered greatly with the work in Lexington county as we could not put on a campaign there until about the first of May. However, in the other counties we have been very successful.

The State Board of Health furnishes free of charge typhoid bacterin and has sent out about 28,000 ampules—in other words, inoculated over 9,000 people.

Upon the occurrence of an epidemic in a community, we send out the following rules for preventing typhoid fever:

*For the Individual:*

1. Keep away from all known or suspected cases of typhoid.
2. Wash hands thoroughly before meals. Do not use "roller towels."
3. Use drinking water only from sources known to be pure, or, if this is not possible, use water that has been purified by municipal filtration or by hypochlorite treatment or by boiling in the household.
4. Avoid bathing in polluted water.
5. Use pasteurized or boiled, instead of raw milk.
6. Select and clean vegetables or berries, that are to be eaten raw, with greatest care.
7. Avoid eating "fat" raw oysters, and in general, oysters and other shell-fish whose origin is not known.

8. Be vaccinated against typhoid in all cases in which any special exposure is known or feared.

*For the Community:*

1. Insist on the hearty co-operation of all persons with an efficient health officer.

2. Require notification and a reasonable degree of isolation of every known or suspected typhoid case.

3. Exercise strict control over the disinfection of known typhoid excreta.

4. Insist on pure or purified water supplies.

5. Require pasteurization of milk supplies.

6. Regard all human excreta as possibly dangerous, and control their disposition in such a way to prevent contamination of food and drink.

*Tuberculosis.*

The educational campaign against tuberculosis is still being conducted and this year we are endeavoring, by a pamphlet entitled, "What You Should Know About Tuberculosis," to reach the school children. A copy of this pamphlet has been sent to each teacher in South Carolina with a request to teach the same in the school to the higher grades. These pamphlets will be furnished in whatever number may be desired. The Field Secretary, Mrs. Annie I. Rembert, is carrying on this work under an appropriation made for the distribution of literature for better education about the facts of tuberculosis.

The Sanatorium is full and a report of its activities may be found elsewhere in this volume.

There were, for the first nine months of the year, 1,326 deaths from tuberculosis, which is less than last year, showing a gradual reduction in the death rate in this State.

We append a tabulated statement of deaths from tuberculosis, all forms, in the following counties for ten months to November 1, 1918.



DEATHS FROM TUBERCULOSIS, ALL FORMS, IN THE FOLLOWING  
COUNTIES FOR TEN MONTHS TO NOVEMBER 1, 1917.

Counties	Population	Number
Abbeville .....	35,687	29
Aiken .....	43,619	26
Anderson .....	78,268	73
Bamberg .....	19,329	9
Barnwell .....	34,209	13
Beaufort .....	30,355	21
Berkeley .....	23,487	11
Calhoun (included in Lexington).....		14
Charleston .....	88,262	116
Cherokee .....	29,210	34
Chester .....	29,235	32
Chesterfield .....	30,009	18
Clarendon .....	34,704	20
Colleton .....	36,608	2
Darlington .....	138,598	45
Dillon (included Marion).....		33
Dorchester .....	18,896	13
Edgefield .....	30,043	9
Fairfield .....	29,452	9
Florence .....	40,126	41
Georgetown .....	23,270	23
Greenville .....	77,736	81
Greenwood .....	37,923	29
Hampton .....	25,997	15
Horry .....	29,278	18
Jasper (included in Beaufort and Hampton).....		3
Kershaw (included in Darlington).....		17
Lancaster .....	28,121	35
Laurens .....	44,171	56
Lee (included in Darlington).....		20
Lexington .....	115,656	19
Marion .....	48,259	30
Marlboro .....	36,020	26
Newberry .....	37,355	30
Oconee .....	29,666	27
Orangeburg (included in Lexington).....		53
Pickens .....	29,223	15
Richland .....	61,148	88
Saluda .....	22,180	8
Spartanburg .....	94,722	118
Sumter (included in Darlington).....		56
Union .....	32,683	37
Williamsburg .....	41,361	57
York .....	51,512	68
McCormick .....	.....	3

Deaths for 1916, 1,492. Deaths for 1917, 1,480. Rate for 1916, per 100,000,  
111.4. Rate for 1917, 109.2.

DEATHS FROM TUBERCULOSIS ALL FORMS IN THE FOLLOWING  
COUNTIES FOR TEN MONTHS ENDING OCTOBER 31, 1918.

Counties	Population	Number
Abbeville .....	35,829	14
Aiken .....	43,904	41
Anderson .....	79,670	49
Bamberg .....	19,454	6
Barnwell .....	34,209	21
Beaufort .....	30,355	23
Berkeley .....	23,487	13
Calhoun .....	18,682	17
Charleston .....	89,022	145
Cherokee .....	29,698	24
Chester .....	30,017	25
Chesterfield .....	30,607	16
Clarendon .....	35,110	25
Colleton .....	36,804	4
Darlington .....	39,879	38
Dillon .....	25,682	15
Dorchester .....	19,058	11
Edgefield .....	30,327	5
Fairfield .....	29,454	19
Florence .....	40,925	59
Georgetown .....	22,270	18
Greenville .....	79,244	96
Greenwood .....	38,519	24
Hampton .....	26,138	12
Horry .....	29,646	14
Jasper (included in Beaufort and Hampton).....		6
Kershaw .....	29,991	18
Lancaster .....	28,358	31
Laurens .....	44,593	37
Lee .....	28,025	22
Lexington .....	35,985	18
Marion .....	23,390	20
Marlboro .....	33,780	40
Newberry .....	37,801	44
Oconee .....	30,041	21
Orangeburg .....	62,775	57
Pickens .....	29,836	17
Richland .....	62,115	121
Saluda .....	22,385	13
Spartanburg .....	96,534	99
Sumter .....	42,586	45
Union .....	33,129	32
Williamsburg .....	41,962	34
York .....	52,122	63
McCormick (included in Abbeville, Edgefield and Greenwood) .....		4
	1,643,205	1,476

### *Measles.*

We had quite a number of measles in the State this year but we had only 75 deaths reported, due directly from measles, as compared with 146 deaths in 1917. As the deaths from measles include those deaths occurring in camps in the State, the death rate among the civil population must have been exceedingly low.

We again print the method found best to control measles:

(A) *The Infected Individual and His Environment:*

1. Recognition of the disease—clinical symptoms. Special attention to the rise of temperature. Koplik spots and catarrhal symptoms in exposed individuals.

2. Isolation—during period of communicability.

3. Immunization—none.



4. Quarantine—exclusion of exposed susceptible school children and teachers from school until 14 days from last exposure. This applied to exposure in the household. Exclusion of exposed susceptible children from all public gatherings for the same period.

5. Concurrent disinfection—thorough cleansing.

(B) *General Measures:*

1. Daily examination of exposed children and of other possibly exposed persons. This examination should include record of the body temperature. A non-immune exposed individual exhibiting a rise of temperature of 100°F. or more should be promptly isolated pending diagnosis.

2. Schools should not be closed or classes discontinued where daily observation of the children by a doctor or nurse is available.

3. Education as to special danger of exposing young children to those exhibiting acute catarrhal symptoms of any kind.

*Whooping Cough.*

We must again emphasize that whooping cough is extremely fatal among children under two years of age. We are sorry to report that the death rate this year is 224 against 76 last year, showing that the people have become careless or else that the constantly shifting population, due to the camps, have caused the carrying of it to isolated communities. It is not necessary for children to have whooping cough. Children under two years of age should be carefully guarded against this disease. In some cities the plan adopted is the quarantining for two weeks and then the wearing of a band on the arm with "whooping cough" inscribed thereon. Houses should be placarded so that persons having small children will not unnecessarily expose them.

*Anterior Poliomyelitis (Infantile Paralysis).*

We again report no epidemic of this disease but as there have been seven deaths in the State we should be on our guard against this disease which sometimes claims such a high death rate and which by causing paralysis and not death places upon a community the burden of caring for many helpless cripples.

*Cerebro-Spinal Meningitis.*

Feeling sure that an epidemic of cerebro-spinal meningitis would occur in this State this year, the State Health Officer asked for a large appropriation with which to combat this disease. We

are sorry to report that his prediction was fulfilled and that a severe epidemic swept the State. A full report of this epidemic is found elsewhere in this volume.

### *Malaria.*

There was a decrease in the number of deaths attributed directly to this disease in 1918, the number being 209 against 259 in 1917. Excellent work has been done in this State in the extra cantonment areas to prevent this disease and an object lesson is thus shown for communities. A report of the activities in the extra cantonment areas, contained in this volume, will show what can be done to protect communities against malaria.

### *Anti-Malarial Operations.*

A detailed report of anti-malarial operations is contained in the financial statement attached hereto. The anti-malarial work included extends from July 1, 1918, to November 15, 1918, at which time all anti-malarial operations were discontinued under Bureau instructions. The following are statistical details:

#### **Personnel Employed.**

- 1 Sanitary Bacteriologist.
- 1 Chief Sanitary Inspector (Construction Engineer).
- 1 General Foreman.
- 1 Foreman of transportation and supplies.
- 1 Foreman timekeeper.
- Foremen of labor squads.
- Labor.

#### **Transportation.**

- 1 Reo  $\frac{3}{4}$  ton truck (U. S. P. H. S.)
- 1 Ford touring car (A. R. C.)
- 1 Ford truck (City of Columbia).

#### **Cost of Operations. (July 1-Nov. 15, 1918, Inc.)**

Paid by P. H. S.		
Bacteriologist in charge	\$1,159 50	
Supervision	3,342 38	
Labor	8,468 29	
Transportation	555 59	
Oil	961 94	
Supplies	37 50	
Total		\$14,525 10
Paid by Red Cross (July 1-Nov. 15, 1918).		
Auto maintenance	\$375 11	375 11
Paid by City of Columbia.		
Oil	\$901 48	
Auto maintenance	41 42	
Total		942 90
Total anti-malarial cost, July 1 to Nov. 15, inclusive.		\$15,843 11

The above anti-malarial operations included the flight zone around the cantonment of Camp Jackson, the city of Columbia, and the area lying between the city of Columbia and the camp.



*Malarial investigations.* At the very beginning of operations in this community it was recognized that one of the most important problems present related to the control of malaria for the protection of the military organization. While advantageously located from other points of view, the camp site selected and known as Camp Jackson was unfortunately surrounded on practically all sides by numerous marshy areas and their tributary streams. It became immediately necessary to undertake drainage and oiling of such streams during the fall of 1917, and because of the urgency and the lack of funds the work was financed as an emergency measure by the American National Red Cross and a field force at once provided and placed at work clearing, draining and oiling all streams within a zone one mile in width and extending around the camp site. Much labor was required because of the extent of streams and the heavy undergrowth. This preliminary work, however, was completed in a satisfactory manner during December, 1917, at which time operations were discontinued until the spring of 1918, when the direction and financing of the anti-malarial work were taken over by the Public Health Service, its scope extended and in addition, as the means of unification, the anti-malarial operations within the city were included, the latter having been carried out independently by the city of Columbia during the previous season.

This latter organization was effected early in March and has been pushed forward as rapidly as circumstances would permit. Unfortunately the season of 1918 was much advanced, by nearly thirty days, and in addition there occurred the wettest April known in this community for the past thirty years.

At the end of May approximately fifty per cent. of the work for this season had been accomplished, one-half of the area having been trained and drained and preliminary arrangements made for the establishment of drip cans containing oil and for the spraying of the streams. The difficulties met have related principally to the high cost of labor and the inability to obtain a sufficient number of men. Notwithstanding a marked advance in pay it is now practically impossible to obtain an adequate force of negro labor and the work has suffered in consequence. However, every effort is being made to push these important operations forward as rapidly as possible. Much labor has been required in draining and clearing Percival Pond, clearing the banks

of Dent's Pond and removing obstructions in laterals closed by drainage operations through Hampton Mill Pond.

Anopheline larva were found as early as April 27th in the extra cantonment area, but have been few in number. They have been noted to be more abundant within the city of Columbia, which has required earlier and more active oiling operations within the city limits. This difference in time of appearance is thought to be due to the fact that the low temperature of the streams and the shaded areas in the extra cantonment areas retarded development, whereas the exposed breeding places within the city limits stimulated development, followed by an early appearance. The season was also advanced by reason of the early occurrence of warm weather and an excessive rain-fall during April.

These operations over this territory, including the operations of the army within the camp area, have resulted in the perfect protection of the troops from malaria, it having been reported by the Camp Surgeon that but one case of malaria has occurred at Camp Jackson which was thought to be of local origin. This case occurred in the aviation field in territory occupied prior to anti-malarial control of that section. Physicians also report that in their opinion malaria has been much reduced in their practice, and civilians generally report a marked reduction in mosquito infestation in this vicinity. In this connection, specimens of blood were obtained from two thousand school children occupying the corporate limits of the city and the blood subjected to laboratory examination by a microscopist. The results were uniformly negative, no malaria having been found.

Some time prior to the malarial season, anticipating an enlargement of the camp area, the War Department acquired additional territory and provided for an extensive enlargement of Camp Jackson. This area includes practically all of the territory previously contained in the mosquito flight zone under control of the Public Health Service.

Almost coincident with this enlarged camp zone came the termination of the war, and at the close of the present malarial season it is not possible to determine accurately the extra cantonment area which will require protection against malaria during the season of 1919. It is, therefore, considered best to postpone further malarial operations until spring, at which time definite information should be at hand with regard to the occupancy of



the camp. If only a small military organization is maintained and the enlarged camp zone remains unrestricted, it is possible that little or no anti-malarial work will be required of the Public Health Service for 1919. A small organization located within this large camp area would not likely present a mosquito flight zone outside of the camp limits.

Respectfully submitted,

FRIENCH SIMPSON,  
P. A. Surgeon, In Charge.

### *Pellagra.*

Pellagra is steadily becoming less and less an important factor in the death rate of this State. The following table shows the number of deaths from Pellagra that occurred in 1917 and 1918.

#### DEATHS FROM PELLAGRA IN THE FOLLOWING COUNTIES FOR TEN MONTHS, ENDING OCTOBER 31, 1917.

Counties	Population	Number
Abbeville .....	35,687	6
Aiken .....	43,619	11
Anderson .....	78,268	32
Bamberg .....	19,327	..
Barnwell .....	34,209	6
Beaufort .....	30,355	3
Berkeley .....	23,487	5
Calhoun (included in Lexington) .....		3
Charleston .....	88,968	87
Cherokee .....	29,210	7
Chester .....	29,933	17
Chesterfield .....	30,009	2
Clarendon .....	34,704	6
Colleton .....	36,608	2
Darlington .....	138,598	14
Dillon (included in Marion) .....		5
Dorchester .....	18,896	3
Edgefield .....	30,043	8
Fairfield .....	29,452	5
Florence .....	40,196	19
Georgetown .....	22,270	7
Greenville .....	77,736	24
Greenwood .....	37,923	18
Hampton .....	25,997	6
Horry .....	29,278	2
Jasper (included in Beaufort and Hampton) .....		..
Kershaw (included in Darlington) .....		5
Lancaster .....	28,121	16
Laurens .....	44,171	12
Lee (included in Darlington) .....		3
Lexington .....	115,656	2
Marion .....	48,259	5
Marlboro .....	33,420	9
Newberry .....	37,355	17
Oconee .....	29,666	7
Orangeburg (included in Lexington) .....		18
Pickens .....	29,223	9
Richland .....	61,148	46
Saluda .....	22,186	2
Spartanburg .....	94,722	43
Sumter (included in Darlington) .....		15
Union .....	32,683	6
Williamsburg .....	41,361	8
York .....	51,512	15
McCormick .....		8
	1,625,473	544

Deaths for 1916, 553. Deaths for 1917, 544. Rate for 1916 per 100,000, 41.2. Rate for 1917, 40.2.

DEATHS FROM PELLAGRA IN THE FOLLOWING COUNTIES FROM  
JANUARY 1ST, TO OCTOBER 31, 1918.

Counties	Population	Number
Abbeville .....	35,829	4
Aiken .....	43,904	8
Anderson .....	79,670	28
Bamberg .....	19,454	1
Barnwell .....	34,209	4
Beaufort .....	30,355	5
Berkeley .....	23,487	5
Calhoun .....	18,682	3
Charleston .....	89,022	80
Cherokee .....	29,698	13
Chester .....	30,017	17
Chesterfield .....	30,607	3
Clarendon .....	35,110	6
Colleton .....	36,804	9
Darlington .....	39,879	16
Dillon .....	25,682	4
Dorchester .....	19,058	8
Edgefield .....	30,327	1
Fairfield .....	29,454	6
Florence .....	40,925	24
Georgetown .....	22,270	10
Greenville .....	79,244	33
Greenwood .....	38,519	19
Hampton .....	26,138	3
Horry .....	29,646	2
Jasper (included in Beaufort and Hampton).....		..
Kershaw .....	29,991	2
Lancaster .....	28,358	10
Laurens .....	44,593	13
Lee .....	28,025	9
Lexington .....	35,985	7
Marion .....	23,390	10
Marlboro .....	33,780	8
Newberry .....	37,801	11
Oconee .....	30,041	8
Orangeburg .....	62,775	14
Pickens .....	29,836	9
Richland .....	62,115	54
Saluda .....	22,385	2
Spartanburg .....	96,534	31
Sumter .....	42,586	20
Union .....	33,129	4
Williamsburg .....	41,962	11
York .....	52,122	19
McCormick (included in Abbeville Edgefield and Greenwood) .....		4
	1,643,205	558

*Influenza.*

Columbia, S. C., December 31, 1918.

*To the Chairman and Members of the Executive Committee, the  
South Carolina State Board of Health, Columbia, S. C.*

Gentlemen: (Through the Secretary and State Health Officer.)

I have the honor to submit the following report of measures undertaken for the control of influenza in South Carolina during the epidemic occurring from September 21, 1918, to date.

It is believed that influenza was epidemic in South Carolina as early as the middle of September, but its appearance was first reported on September 21 in a wire from Abbeville. On Septem-



ber 25 the three Abbeville cases were added to by a report of 100 cases from Newberry.

That the disease should have made its first appearance in western South Carolina seems logical when one considers the direct railroad connection existing between that section and the eastern part of the United States where influenza first manifested itself in epidemic form.

The "Piedmont" section of South Carolina, in which the disease first appeared, is more thickly populated than any other part of the State. This, in part, is occasioned by the presence of a large number of cotton mills employing thousands of operatives. The close personal contact necessitated by their work afforded excellent opportunity for the rapid spread of the infection.

The method and route of the extension of influenza from this point is not clearly defined but its next reported appearance was from the north-central section of the State. This area is included in the manufacturing section and the same factors which favored the dissemination of infection in the western Piedmont obtain.

On October 4 the State Health Officer was invited to a conference of Health Officials in Atlanta, Ga., the purpose of which meeting was to formulate plans for preventing and limiting the spread of the disease which had proved so highly fatal in Massachusetts and other States in the East.

The need for emergency medical and nursing aid was anticipated and on October 5, 1918, the State Health Officer requested Surgeon General Blue of the U. S. Public Health Service to send five physicians and 10 nurses to supplement the depleted professional resources of the State.

Having observed the extension of the epidemic toward the southeastern section of the United States, the Surgeon General, on October 6, 1918, recommended that general quarantine measures be put into effect. This suggestion was immediately accepted, and on October 7th the State Health Officer directed local health officers and county sheriffs to close schools, churches and picture shows and to prevent other public gatherings.

To assist in obtaining the data necessary to intelligently conduct the campaign of control, the Bureau of the U. S. Public Health Service authorized the State Health Officer to secure daily telegraphic reports of the prevalence of the disease from every town in the State, and to have them charged to the Federal government.

On October 10 two physicians, members of the Volunteer Medical Aid Corps, reported to the State Health Officer for duty and were assigned to communities requiring medical assistance. This was a most satisfactory acknowledgment of the State Health Officer's call for help.

The request for nurses had been referred to the American Red Cross, and on October 13 a special representative of the Southern Division of that organization arrived in Columbia from Atlanta, Ga. He had been directed to secure the services of competent nurses who might assist in organizing an extensive volunteer nursing staff. The fine work done by this representative, and the devoted service performed by the nurses secured through his efforts deserve special mention. The people of South Carolina will not soon forget the effective assistance given by the Southern Division, and various local Red Cross Chapters.

Anticipating the assignment of a large number of Public Health Service employees to South Carolina for duty in connection with the influenza control measures, Surgeon General Blue on October 17 detailed a commissioned officer of that corps to assume supervisory charge of personnel under direction of the State Health Officer. This action met with the full approval of the president and other members of the South Carolina State Board of Health.

The combined effort of the Public Health Service and other organizations resulted in the assignment of a number of physicians and nurses and these were already doing much to fill the gaps created by illness and calls to military service.

Influenza was made a reportable disease at a special meeting of the Executive Committee of the State Board of Health and all physicians and local health authorities were urged to keep the Secretary informed of the prevalence of the infection. The response to this request was most satisfactory, and by October 21 daily reports were being received from nearly 200 towns and communities.

Calls for medical and nursing help were almost as numerous as these reports, for no section of the State was being spared. The "Emergency Influenza Staff" sent out by this office worked heroically and they must be given credit for saving many lives. Perhaps less merit was found in the treatment and care of the individual than in the great benefit derived from the return of community confidence occasioned by the knowledge that an



organized effort was being made to help. Local hysteria was prevalent, and, lacking definite information, local resources were overlooked. This undesirable state of affairs was rapidly overcome wherever physicians and nurses were sent.

Early in the epidemic the Bureau of the Public Health Service authorized the establishment of emergency hospitals for the treatment of pneumonia cases following influenza. The value of these institutions was demonstrated many times over. Not only were the sufferers afforded better treatment, but, by thus concentrating the cases a comparatively limited number of physicians and nurses were enabled to do the work for which many more would have been required had the cases been widely separated.

The infection continued to spread and to become more prevalent until the third week in October. Certain communities, first to feel the effect of the disease, showed signs of improvement, and hope was aroused that the plague would spend its force by the first of November. A careful recheck of the office records on October 27 showed that 86,415 cases had been reported from 45 counties. Owing to the fact that many communities, both urban and rural, had been overwhelmed by the severity of the local epidemic, complete reporting of the disease had never been obtained, and could hardly be expected. Subsequent reports received from localities as they emerged from the worst effects of the scourge indicated definitely that at least 10 per cent. of the entire population of the State had suffered from influenza.

For the first two weeks of the epidemic few cases of pneumonia were reported. At no time was an accurate account made, but from October 15 to October 30 a daily increase was observed in the number of cases of pneumonia and deaths from that complication.

A total of 3,600 deaths, directly attributable to influenza complicated by pneumonia, were recorded in the Bureau of Vital Statistics during the month of October. As the average death rate for October is about 2,000, and a total of 6,100 deaths were recorded it is believed that not less than 4,000 lives were taken by pneumonia alone.

During the last week in October there was a distinct decrease in the number of new cases reported from many communities and requests were received daily for permission to reopen schools. The optimism expressed by the school authorities was not shared by the State Health Officer and the officer of the Public Health

Service who had observed the rapid extension of the infection, but the Board being of the opinion that school children under careful supervision are often better protected in school than when at home, all requests were given consideration. A telegram was sent county sheriffs and local health officers, advising them that general quarantine would be relaxed on Manday, November 4, in all localities in which influenza had ceased to spread. All were given to understand, however, that a statement from a competent health authority, approving the relaxation of precautions, would be required before the ban might be lifted in a given locality.

Because of the general improvement in conditions the blanket quarantine order of October 7 was revoked on November 4, churches and schools being the first to take advantage of the release. Eleven counties, however, voluntarily continued the complete enforcement of the preventive measures recommended by Surgeon General Blue, and with the full approval of all who could foresee the extreme danger of too early return to the ordinary routine of living.

It was feared that an immediate reaction would follow the enthusiastic resumption of personal intercourse but the general improvement continued. Not until two weeks later was its effects manifested. A daily increase in the number of new cases occurring was reported generally all over that section of the State which had first been invaded. Those counties last to become infected were latest to report a recrudescence.

From time to time since November 15 it has been necessary to reimpose quarantine on localities, and in certain instances whole counties have been closed. This action was taken only after consultation with authorities familiar with the local situation, and in every instance marked improvement was noted as soon as public gatherings were discontinued. Quarantine, as expressed by the closing of schools and churches, may or may not be effective in large cities, but in rural communities where the church and school are the centers of social activity the benefits are immediate, and so marked as to prove conclusively the wisdom of the measures suggested by the Surgeon General of the Public Health Service.

The thirty physicians employed by the U. S. Public Health Service, and the 40 nurses furnished by the American Red Cross were pillars of strength to many needy communities. Assisting them was a large body of unsung laborers, unselfish men and women who did all they could to lessen the suffering, and to supply



the needs of helpless families. The generous and capable assistance given by these volunteers made doubly valuable the service performed by the trained workers. Good "neighbors" are valuable assets when 10 per cent. of the population of a State is in bed.

To afford medical aid to the State of South Carolina the Public Health Service spent nearly \$15,000 in six weeks. The Southern Division of the American Red Cross employed and maintained in the field a force of 40 nurses for a similar period. Local Red Cross Chapters provided nurses, medical supplies, clothing, food and hospital care to hundreds of cases.

At the request of the State Health Officer the State Council of Defense appropriated \$2,000 when financial aid was desperately needed. To date \$1,800 of this fund has been disbursed and has served not only to provide medical attention to a number of persons, but has covered the major portion of the administrative expenses of the campaign.

Influenza is still prevalent in South Carolina and will doubtless continue for many months. Unquestionably the present expression of the disease is less severe than when the epidemic first covered the State. Deaths occur from pneumonia following the disease but fewer cases develop this dreaded complication. The increased care exercised to prevent infected persons from convalescing too rapidly doubtless plays a large part in the lowered death rate.

The October-November influenza control campaign was in no sense a triumph of scientific investigation. The value of prophylactic and curative sera was not tested nor were new methods of control produced. Certain facts stand out prominently, however, results are far more conclusive than arguments. Efficient medical and nursing aid were given to thousands of persons who otherwise might have suffered without any attention whatever. By the judicious use of quarantine authority the morbidity curve was flattened out and the average death rate for the entire epidemic to date will not exceed 0.5 per cent.

Certain tables have been condensed and one list submitted showing the number of cases of influenza and the number of deaths, both white and black, for each of 45 counties, during the month of October. Supplementary reports indicate a total of between 150,000 and 170,000 cases of influenza and over 6,000 deaths.

LIST OF CASES OF INFLUENZA, AND OF DEATHS CAUSED BY PNEUMONIA FOLLOWING THAT DISEASE REPORTED TO THE STATE HEALTH OFFICER DURING OCTOBER, 1918.

Counties (45)	Influenza Cases	Deaths White	Deaths Colored
Abbeville .....	980	16	26
Aiken .....	1,734	22	38
Anderson .....	3,759	82	42
Bamberg .....	841	4	28
Barnwell .....	2,132	3	23
Beaufort .....	599	8	18
Berkeley .....	155	3	35
Calhoun .....	1,136	4	64
Charleston .....	6,605	156	209
Cherokee .....	154	26	14
Chester .....	881	2	22
Chesterfield .....	746	15	18
Clarendon .....	2,132	15	123
Colleton .....	357	4	8
Darlington .....	1,232	26	61
Dillon .....	5,000	12	8
Dorchester .....	793	6	16
Edgefield .....	911	10	5
Fairfield .....	184	3	24
Florence .....	1,457	44	98
Georgetown .....	1,690	23	38
Greenville .....	4,642	148	55
Greenwood .....	3,679	42	65
Hampton .....	816	13	24
Horry .....	2,609	28	47
Jasper .....	869	1	11
Kershaw .....	783	10	27
Lancaster .....	2,428	59	49
Laurens .....	2,093	38	47
Lee .....	813	12	44
Lexington .....	1,384	37	44
McCormick .....	522	12	30
Marion .....	1,734	44	66
Marlboro .....	1,789	34	82
Newberry .....	3,000	36	8
Oconee .....	1,637	18	94
Orangeburg .....	3,883	35	18
Pickens .....	748	144	192
Richland .....	8,191	63	42
Saluda .....	246	10	8
Spartanburg .....	3,552	26	116
Sumter .....	1,939	9	8
Union .....	1,465	21	121
Williamsburg .....	3,284	68	64
York .....	2,531	3	24
	86,415	1,395	2,205

Total cases, 86,415; total deaths, 3,600.

Note:—The completeness and accuracy of the above list is not vouched for by this office and is merely a compilation of figures received in the Bureau of Vital Statistics during the month of October.

Additional case reports show the disease to have been nearly 100 per cent. more prevalent than actual reports indicate and deaths reported during November will increase the total deaths to about 5,000.



DEATHS FROM INFLUENZA AND PNEUMONIA IN SOUTH CAROLINA  
REPORTED FOR THE MONTH OF NOVEMBER, 1918.

White		Colored		White		Colored	
Abbeville	9	31	Horry	23	30		
Aiken	20	44	Jasper	1	18		
Anderson	48	62	Kershaw	3	12		
Bamberg	0	19	Lancaster	11	34		
Barnwell	9	40	Laurens	15	33		
Beaufort	36	33	Lee	19	25		
Berkeley	4	38	Lexington	7	15		
Calhoun	1	42	Marion	1	27		
Charleston City	18	22	Marlboro	12	43		
Charleston County	7	61	Newberry	2	11		
Cherokee	24	12	Oconee	25	8		
Chester	4	17	Orangeburg	22	94		
Chesterfield	5	11	Pickens	33	5		
Clarendon	6	71	Richland	39	42		
Colleton	4	39	Camp Jackson	68	12		
Darlington	13	57	Saluda	0	2		
Dillon	6	30	Spartanburg	59	29		
Dorchester	9	12	Camp Wadsworth	81	0		
Edgefield	4	31	Sumter	6	30		
Fairfield	4	5	Union	13	24		
Florence	16	28	Williamsburg	17	66		
Georgetown	10	48	York	10	37		
Greenville	40	25	McCormick	5	8		
Camp Sevier	5	4					
Greenwood	3	21					
Hampton	7	35					
				784	1,443		

DEATHS FROM INFLUENZA AND PNEUMONIA IN SOUTH CAROLINA  
REPORTED FOR THE MONTH OF DECEMBER, 1918.

White		Colored		White		Colored	
Abbeville	1	16	Horry	11	8		
Aiken	20	24	Jasper	3	13		
Anderson	40	49	Kershaw	8	29		
Bamberg	5	13	Lancaster	12	13		
Barnwell	2	23	Laurens	8	24		
Beaufort	8	17	Lee	9	24		
Berkeley	3	25	Lexington	12	16		
Calhoun	3	30	Marion	10	20		
Charleston City	16	21	Marlboro	20	26		
Charleston County	4	30	Newberry	3	4		
Cherokee	10	12	Oconee	21	8		
Chester	38	32	Orangeburg	12	69		
Chesterfield	11	21	Pickens	5	2		
Clarendon	5	25	Richland	41	23		
Colleton	6	18	Camp Jackson	36	1		
Darlington	15	44	Saluda	4	29		
Dillon	5	4	Spartanburg	30	72		
Dorchester	8	8	Camp Wadsworth	16	2		
Edgefield	6	14	Sumter	6	34		
Fairfield	3	16	Union	7	17		
Florence	22	17	Williamsburg	5	35		
Georgetown	6	18	York	12	13		
Greenville	61	16	McCormick	2	2		
Camp Sevier	10	11					
Greenwood	12	26					
Hampton	7	18					
				620	1,032		

Nations and States and even individuals have always paid a heavy tribute for unpreparedness. The 45 counties in South Carolina followed the long established precedent when stricken with the epidemic of influenza. More than 4,000 lives will have been wasted and untold suffering experienced in vain if the people of this State do not make immediate and everlasting use of the terrible lesson so pointedly expressed by the helpless condition into which they were thrown when influenza struck a population, 90 per cent. of which was without adequate health organization. The necessity for efficient county health units, so pressing urged by the State Health Officer, must now be apparent to every citizen of South Carolina. When a nation is stricken each State must look out for itself, and when a State is helpless in the grip of disease each county must take care of its own problems. It is impossible to estimate the saving of life and needless suffering had each of the 45 counties in South Carolina been properly equipped to combat influenza. It must not be forgotten that there are other disease conditions which menace the health of the people of this State and "tomorrow" is no time to get ready to meet an enemy, the appearance of which may not be definitely anticipated.

Respectfully submitted,

CHARLES V. AKIN,

P. A. Surgeon, Public Health Service.

Respectfully forwarded.

JAMES A. HAYNE, M. D.,

Secretary and State Health Officer.

#### TREASURY DEPARTMENT.

UNITED STATES PUBLIC HEALTH SERVICE

1123 Gervais St.

Columbia, S. C., December 12, 1918.

Dr. James A. Hayne, Secretary and State Health Officer, Columbia, South Carolina.

Sir: In reply to letter of P. A. Surgeon C. V. Akin, Acting, under date of December 9, 1918, requesting that this office furnish you with a report of the epidemic of cerebro-spinal meningitis which occurred within the State during the latter part of 1917 and early in 1918, I have to advise as follows:



During the latter part of December, 1917, shortly after the establishment of the City Laboratory, there appeared an epidemic of cerebro-spinal meningitis, during which there occurred within the city limits about thirty cases and within the State about two hundred and fifty cases.

Cases were reported from widely separated points within the State of South Carolina and not confined to any particular locality. Local physicians were in need of advice regarding the diagnosis and proper method of administering serum, and in response to a recommendation addressed to the Bureau, P. A. Surgeon Joseph Bolten arrived in Columbia early in January for a conference. He immediately familiarized himself with the facilities of the State and City Laboratories, arranged an itinerary and made preparations to visit as rapidly as possible the foci reported in the State for epidemiological study and for the instructing of physicians in the treatment of meningitis. United States Public Health Service laboratory car "Hamilton," with personnel in charge of P. A. Surgeon C. V. Akin, was also detailed to Columbia and other points within the State for the purpose of conducting the necessary clinical and bacteriological work in connection with the diagnosis and control of meningitis. This car arrived in Columbia about the first of February, at a time when its services were much in need to relieve the congestion of the laboratory, and was of great service in enabling the laboratory to standardize its methods in accordance with service regulations and to carry on examinations independently.

At the same time the Bureau also detailed to this office Bacteriologist C. T. Butterfield, who was of much assistance to meet the calls upon this office for the diagnosis of cases and the examination of carriers, both in the City of Columbia and intra-state points.

Because of its adaptability and by reason of the absence of facilities in the State Laboratory, bacteriological analyses of all spinal fluids and all cultures obtained during the epidemic were made in this laboratory. In order to meet these demands, as an emergency measure the American Red Cross detailed to the laboratory for duty a skilled bacteriologist, Nathan Berman, familiar with meningitis, who by reason of the inability of the State to provide the necessary funds, was detailed upon special duty of visiting the foci of meningitis which occurred in the State of South Carolina between December, 1917, and March, 1918. Over

250 individual cases were visited by this bacteriologist, who rendered assistance to local physicians, obtained spinal fluid for laboratory examination, made cultures, and in other ways assisted in this important emergency work.

Following is a detailed statement of work performed by the laboratory:

No. suspected carriers examined .....	4,203
No. gram negative cultures isolated.....	215
No. gram negative cultures agglutinating.....	11
No. suspected cases furnishing spinal fluid.....	68
No. specimens fluid obtained .....	169
No. showing gram negative diplococci .....	36
No. specimens showing typical cultures .....	17
No. specimens which failed to agglutinate .....	2

Respectfully,

R. L. DeSAUSSURE,  
Assistant Surgeon in Charge.

### BUREAU OF CHILD HEALTH.

We have this year been planning a new activity in our department: a Bureau of Child Health. This bureau would have for its purpose the bettering of health conditions among children. Its activities would include: enforcement of birth registration; establishment of infant and pre-natal centers; instruction and supervision of mid-wives; improvement of sanitary conditions in schools and homes; proper teaching of health principles to school children and to mothers; physical inspection of school children; correction of physical defects in children, which will lead to establishment of clinics.

The staff of this bureau would consist of a director, who is a trained public health nurse, and a number of other nurses under her supervision, and located in the various counties and small towns.

The legislation necessary for the establishment of such a bureau must include the following:

First, Birth Registration, which is already provided for under the Bureau of Vital Statistics.

Second, Control of Mid-wives, which would require, first registration, then instruction and supervision, and lastly, licensing of same.



Third, a law requiring physicians to use drops in every newborn baby's eyes (preferably a 10 per cent. Argyrol solution).

Fourth, physical inspection of school children.

An appropriation of \$10,000 would be necessary for the financing of this department.

RUTH A. DODD.

## MINUTES OF EXECUTIVE COMMITTEE MEETINGS.

Columbia, S. C., February 29, 1918.

The regular meeting of the State Board of Health was held Tuesday, February 19th, at 12:30 p. m., at the offices of the Secretary, Palmetto Building, with the following members present: Drs. C. C. Gambrell, E. A. Hines, William Egleston, William Lester, W. W. Dodson, and the Secretary.

The minutes of the last meeting were read and approved.

Dr. Egleston moved that a book be published by the South Carolina Sanatorium, that this booklet be illustrated, and that it should contain all important data about the South Carolina Tuberculosis Sanatorium, and that five thousand of these be printed.

It was moved by Dr. Egleston that a committee be appointed to revise and bring up to date, all bulletins issued by this office.

It was moved and seconded by Dr. Hines that the State Health Officer make arrangements for the opening of the space in the Journal of the South Carolina Medical Association, for the purpose of conducting a news item in regard to the items of interest related to the State Board of Health in South Carolina.

Dr. Hines introduced the following resolution:

*Resolved*, That whereas the State of South Carolina, by virtue of her important position as a training ground for troops, has thus assumed national prominence, and her health laws are now being put to extreme test, therefore, be it resolved: That a committee be appointed to study the most progressive health laws of this and other countries, and report its findings and suggestions to the State Board of Health in ample time prior to the convening of the next Legislature.

It was moved and seconded by Dr. Egleston that the State Health Officer take steps to secure an intern for the South Carolina Sanatorium, and that the salary of such intern be paid from the maintenance fund of the Sanatorium.

Dr. Hines introduced the following resolution:

*Resolved*, That a committee of three be appointed to devise ways and means to establish a Bureau of Child Welfare of the State Board of Health. Drs. Hines, Hayne and Egleston were appointed on this committee.

It was called to the attention of the Board that the Sanatorium was without fire protection, and the Secretary was directed to purchase three dozen fire extinguishers, approved by the National Board of Fire Underwriters.

A letter was read from Dr. Friench Simpson, P. A. Surgeon, United States Public Health Service, requesting an appropriation of \$1,000 to cover incidental expenses for an inspection service for the anti and post-mortem examination of meat, slaughtered for sale and consumption in the emergency and sanitary zones. The Board declined to make the appropriation on account of lack of funds, but agreed to pass the regulation embracing the points brought to the attention of the Board by Dr. Simpson.

There being no further business, the Board adjourned to meet at the call of the Chairman.

JAMES A. HAYNE, M. D.,  
Secretary.

Attested.

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Columbia, S. C., March 12, 1918.

The meeting of the sub-committee of the Executive Committee of the State Board of Health was held at the offices of the Secretary, Palmetto Building, on Tuesday, March 12th, at 9:30 a. m., to inspect the new buildings of the South Carolina Sanatorium, at State Park. The following members were present: Drs. Robert Wilson, Jr., Chairman; C. C. Gambrell, William Egleston, and the Secretary. The Board proceeded to the Sanatorium, and inspected the buildings, which were not yet completed.

The following resolution was passed:

*Resolved*, That the firm of Harbeck & Heslep had not shown due diligence in completing the building in the time set, namely, October 15th, 1917, and that as the contract called for a forfeiture of \$25.00 per day, for each and every day after October 15th, and that there was due from this firm the sum of \$3,700.00.

Mr. Harbeck appeared before the Board, and made a statement in regard to the reasons why they had been unable to carry out



the terms of the contract. The Board, after consulting the Attorney General of the State (Thos. H. Peeples), who was present at the meeting, decided to demand only a forfeiture of \$1,000.00.

At the afternoon meeting of the Board, at which there were present the following members: Drs. Robert Wilson, Jr., Chairman, C. C. Gambrell, William Egleston, Mr. Thos. H. Peeples, Attorney General, the Secretary, Major-General C. J. Bailey, Major Beal, and P. A. Surgeon Simpson, of the U. S. Public Health Service, and Mr. Alan Johnstone representing the Fosdick Commission, who discussed fully with the Board the regulations they desired the Board to pass in regard to the prevention of the spread of venereal diseases. The Board agreed to pass these regulations at their next meeting, providing the Governor would sign the bill passed by the General Assembly entitled "An Act to further preserve the public health, and to prevent the spread of venereal diseases."

There being no further business, the Board adjourned to meet at the call of the Chairman.

JAMES A. HAYNE, M. D.,  
Secretary.

Attested.

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Aiken, S. C., April 15, 1918.

The annual meeting of the Executive Committee of the State Board of Health was held Monday, April 15th, at 10 p. m., at the Highland Park Hotel, Aiken, S. C., with the following members present: Dr. C. C. Gambrell, Dr. D. B. Frontis, Dr. E. A. Hines, Dr. William Egleston, Dr. W. M. Lester, Dr. W. W. Dodson, and Dr. James A. Hayne, Secretary and State Health Officer.

The first business of the Committee was the letting of the contract for the free distribution of diphtheria antitoxin, typhoid bacterin, and smallpox vaccine virus. Representatives of various firms submitted bids, and after careful consideration, bids of the National Vaccine and Antitoxin Company were accepted under the following bids submitted:

"In accordance with your recent specifications requesting proposals for supplying the South Carolina State Board of Health with diphtheria antitoxin, smallpox vaccine and typhoid bacterin for a period of one year, we are pleased to quote you as follows:

*Diphtheria Antitoxin.*

1,000 Units in Ready to Use Syringe.....	\$ .57
5,000 Units in Ready to Use Syringe.....	2.30
10,000 Units in Ready to Use Syringe.....	3.75

The above quotation on diphtheria antitoxin contemplates an unlimited exchange privilege, all transportation charges, and we agree to carry as a minimum stock six packages of each size with every distributor, and to allow the distributor a commission of 10 per cent. on all packages distributed by him.

"We further agree to supply all necessary records as set forth in your specifications, and agree to supply a clerk at the salary of \$40.00 per month, whose duty it shall be to maintain the records in your office incidental to the distribution of diphtheria antitoxin.

*Smallpox Vaccine Virus.*

"We are prepared to supply National Glycerinized Vaccine in capillary tubes, packed ten tubes to the package, at

"Eight Cents per Tube F. O. B. your office, Columbia, S. C.

"In the distribution of smallpox vaccine we propose to follow the system introduced by us two years ago for the reclaiming and collection of unused tubes, and we agree to supply the necessary records and stationery for same, and employ a clerk at a salary of \$50.00 per month, whose duty it shall be to distribute said vaccine and maintain said records.

*Antityphoid Vaccine.*

"We propose to supply antityphoid vaccine, plain or mixed, in sealed ampoules at

"Ten Cents per Ampoule, or Thirty Cents per Treatment of 3 Ampoules F. O. B. Columbia, packed in any manner suggested by you.

"In the distribution of anti-typhoid vaccine we agree to employ a clerk at the salary of \$10.00 per month to distribute the same from your office.

"Modified testing regulations as prescribed by the U. S. Public Health Service, together with greatly increased labor and material costs, has made it necessary, as you will observe, to make a slight increase in the price of all biological products.

"We enclose herewith surety bond in the amount of \$1,000, guaranteeing the faithful performance of the contract in case we are the successful bidders.



"Trusting that the above quotations may meet with your favorable consideration, and assuring you of prompt, careful and courteous service, we remain

"NATIONAL VACCINE & ANTITOXIN INSTITUTE,

"By Fred S. Campbell, Assistant Manager."

A resolution was introduced by Dr. Wm. Egleston, and passed, as follows:

*Resolved*, That hereafter the letting of the contract for serums and bacterins be done at the meeting held immediately after the adjournment of the Legislature, and that the contracts be from July first to July first.

Dr. Egleston also introduced the following:

*Resolved*, That the Board recommend to the Legislature the free distribution of salvarsan to each person giving a positive Wasserman reaction, and that sufficient appropriation by the Legislature be made for same.

The following regulations were passed providing for the segregation and treatment of certain persons having or suspected of having communicable venereal diseases, to wit: syphilis, gonorrhea, chancroid.

1. That from and after the passage of these regulations, all persons who shall be convicted in any court of this State, or any municipal court in any city or town in this State, of the violation of any law or city or town ordinance, involving sexual immorality; or who shall be confined in prison in this State as a punishment for the violation of any law of the United States involving sexual immorality; or who shall be confined or detained in any reformatory or place of detention under such circumstances as indicate infection from venereal disease, or as to whom the evidence raises a reasonable inference of infection from venereal disease, shall not be released from custody until the said persons shall have been examined as hereinafter provided, to determine whether or not such persons are infected with syphilis, gonorrhea, or chancroid in a communicable form.

2. That all persons described in paragraph one above, who shall be confined in a county jail, or in a place of detention or reformatory situated outside the corporate limits of a city or town, shall be examined by the county physician or such other person as this committee shall designate; that all persons described in paragraph

one above who shall be confined in a city jail or in a place of detention or reformatory inside the corporate limits of a city or town, shall be examined by the city physician or such other person as this committee shall designate; and it shall be the duty of the presiding officer of the court in which such person shall have been convicted, and of the superintendent of the place of detention or reformatory in which any such person may be confined, to require the examination to be made as herein provided.

3. That before any examining physician shall complete his diagnosis of the case of any person examined for any of the diseases above mentioned, the presence of which are not apparent, he shall transmit to the laboratories of the State Board of Health specimens taken from the bodies of such persons. Said specimens shall be tested at said laboratory and the physician shall be notified of the result of said test.

4. That if the examination disclose that any person is infected with any of the venereal diseases herein mentioned, in a communicable stage, the said persons shall be confined in the jail or prison of the court in which said persons shall have been convicted, except as hereinafter provided, or in such other place as may be provided for the confinement and treatment of such persons, and shall be treated by the county or city physician, or such other persons as may be designated by this committee, until the diseases with which said person is afflicted is no longer communicable.

5. That in lieu of confinement in a city or county jail, or other prisons, for treatment as above provided, any person may be treated in a private hospital, under the terms of Section 2 of an Act entitled "An Act to further preserve the public health, and to prevent the spread of venereal diseases."

6. That any person who shall be confined, under the terms of this Act, and treated, shall not be released until a final examination shall have been made by the county or city physician, or such other persons as may be designated, to determine whether or not the diseases with which such persons were suffering is still communicable, and that in the making of the said final examination the examining physician shall comply with Regulations III above.

7. That no certificate showing freedom from communicable venereal diseases shall, in any case, be delivered to any person who shall be confined and treated under the terms of this Act, but same shall be delivered to the Superintendent of the prison or



institution in which such person shall be confined; and in case such person is treated in a private hospital, such certificate shall be delivered to the Clerk of Court of the county in which the bond provided in Section 2 of an Act entitled, "An Act to further preserve the public health and to prevent the spread of venereal diseases," shall have been filed.

8. That the following forms for the administration of this Act, and no others, shall be followed, and that the said forms are a part of these regulations.

Form No. 1.

.....  
 (place) (date)  
 To the City (County) jailor of .....  
 City  
 County: .....has been this day  
 (name of person)  
 convicted of .....

You will hold the said person in custody and notify immediately the City (County) physician.

.....  
 Presiding Officer.

Form No. 2.

.....  
 (place) (date)  
 ..... will be held for physical examination  
 (name of person)  
 tion and the City (County) physician notified immediately.

.....  
 Superintendent.

.....  
 Reformatory or place of detention.

Form No. 3.

.....  
 (place) (date)  
 The above named person was this day examined by me in accordance with the Regulations of the Executive Committee of the State Board of Health, and found (to be not) infected with

.....  
 Examining Physician.

Form No 4.

.....  
 (place) (date)

The above named party has been confined in .....  
 ..... and treated for .....; has been  
 finally examined, according to the Regulations of the Executive  
 Committee of the State Board of Health, and the examination  
 discloses that her diseases are no longer communicable.

.....  
 Examining Physician.

Note:—This card shall be retained by the Superintendent of  
 the prison or institution from which the person above mentioned  
 has been released, or by the Clerk of the Court of the county in  
 which a bond has been filed by said person.

Allen Johnston of the Fostick Commission, and Major W. A.  
 Sawyer of the Surgeon General's office appeared before the  
 board and urged the passing of the regulations for the control  
 of venereal diseases in South Carolina. The regulations were  
 passed as submitted by them, and are as follows:

# REGULATIONS OF THE SOUTH CAROLINA STATE BOARD OF HEALTH FOR THE PREVENTION OF VENEREAL DISEASES.

(Adopted April 15th, 1918.)

## *Venereal Diseases Declared Dangerous to the Public Health.*

Syphilis, Gonorrhoea, and Chancroid, hereinafter designated  
 venereal diseases, are hereby declared contagious, infectious, com-  
 municable, and dangerous to the public health.

## *Rule 1. Venereal Diseases to be Reported.*

Any physician or other person who makes a diagnosis in, or  
 treats a case of syphilis, gonorrhoea or chancroid, and every  
 superintendent or manager of a hospital, dispensary or charitable  
 or penal institution, in which there is a case of venereal disease,  
 shall report such case immediately in writing to the local health  
 officer, stating the name and address or the office number, age,  
 sex, color, and occupation of the diseased person, and the date of  
 onset of disease, and the probable source of in the infection,  
 provided that the name and address of the diseased person need  
 not be stated except as hereinafter specifically required. The re-



port shall be enclosed in a sealed envelope and sent to the local health officer who shall report weekly on the prescribed form to the State Board of Health, all cases reported to him.

Rule 2. *Patient to be Given Information.*

It shall be the duty of every physician and of every other person who examines, or treats a person having syphilis, gonorrhoea, or chancroid, to instruct him in measures for preventing the spread of such disease, and of the necessity for treatment until cured, and to hand him a copy of the circular of information obtainable for this purpose from the State Board of Health.

Rule 3. *Investigation of Cases.*

All city, county and other local health officers shall use every available means to ascertain the existence of, and to investigate all cases of syphilis, gonorrhoea, and chancroid within their several territorial jurisdictions, and to ascertain the sources of such infections. Local health officers are hereby empowered and directed to make such examinations of persons reasonably suspected of having syphilis, gonorrhoea, or chancroid as may be necessary for carrying out these regulations. Owing to the prevalence of such diseases among prostitutes and persons associating with them, all such persons are to be considered within the above class.

Rule 4. *Protection of Others From Infection by Venereally Diseased Persons.*

Upon receipt of a report of a case of venereal disease it shall be the duty of the local health officer to institute measures for the protection of other persons from infection by such venereally infected person.

(a) Local health officers are authorized and directed to quarantine persons who have, or are reasonably suspected of having syphilis, gonorrhoea, or chancroid, whenever, in the opinion of said local health officer, or the State Board of Health, or its secretary, quarantine is necessary for the protection of the public health. In establishing quarantine the health officer shall designate, and define the limits of, the area in which the person known to have, or reasonably suspected of having syphilis, gonorrhoea, or chancroid and his immediate attendant, are to be quarantined, and no persons, other than the attending physicians, shall enter or leave the area of quarantine without the permission of the local health officer.

No one but the local health officer shall terminate said quarantine, and this shall not be done until the diseased person has

become non-infectious, as determined by the local health officer or his authorized deputy through the clinical examination and all necessary laboratory tests, or until permission has been given so to do by the State Board of Health or its Secretary.

(b) The local health officer shall inform all persons who are about to be released from quarantine for venereal disease, in case they are not cured, what further treatment should be taken to complete their cure. Any person not cured, before release from quarantine, shall be required to sign the following statement after the blank spaces have been filled to the satisfaction of the health officer:

I, ....., residing at .....;  
hereby acknowledge the fact that I am at this time infected with  
....., and agree to place myself under  
the medical care of .....

(Name of physician and clinic)

..... within ..... hours, and  
(Address)

that I will remain under treatment of said physician or clinic until released by the health officer of ....., or until my case is transferred with the approval of said health officer to another regularly licensed physician or an approved clinic.

I hereby agree to report to the health officer within four days after beginning treatment as above agreed to and will bring with me a statement from the above physician or clinic of the medical treatment applied in my case, and thereafter will report as often as may be demanded of me by the health officer.

I agree, further, that I will take all precautions recommended by the health officer to prevent the spread of the above disease to other persons and that I will not perform any act which would expose other persons to the above disease.

I agree, until finally released by the health officer, to notify him of any change of address and to obtain his consent before moving my abode outside his jurisdiction.

.....  
(Signature.)

.....  
(Date.)

All persons signing the above agreement shall observe its provisions, and any failure to do so shall be a violation of these



regulations. All such agreements shall be filed with the health officer and kept inaccessible to the public as provided in Rule 10.

Rule 5. *Conditions Under Which the Name of a Patient is Required to be Reported.*

(a) When a person applies to a physician or other person for the diagnosis or treatment of syphilis, gonorrhoea or chancroid, it shall be the duty of the physician or person seeking such diagnosis or treatment, whether such persons has theretofore consulted with, or has been treated by, any other physician or person, and if so to ascertain the name and address of the physician or person last consulted. It shall be the duty of the applicant for diagnosis or treatment to furnish this information, and a refusal to do so, or a falsification of the name and address of such physician or person consulted by such applicant shall be deemed a violation of these regulations. It shall be the duty of the physician or other person whom the applicant consults to notify the physician or other person last consulted of the change of advisers. Should the physician or person previously consulted fail to receive such notice within 10 days after the last date upon which the patient was instructed by him to appear, it shall be the duty of such physician or person to report to the local health officer the name and address of such venereally diseased person.

(b) If an attending physician or other person knows or has good reason to suspect that a person having syphilis, gonorrhoea, or chancroid himself or herself as to expose other persons to infection, or is about so to conduct himself or herself, he shall notify the local health officer of the name and address of the diseased person and the essential facts in the case.

Rule 6. *Druggists Forbidden to Prescribe for Venereal Diseases.*

No druggist or other person not a physician licensed under the laws of the State shall prescribe or recommend to any person any drugs, medicines, or other substances to be used for the cure or alleviation of gonorrhoea, syphilis, or chancroid or shall compound any drug or medicine for said purpose from any written formula or order not written for the person for whom the drugs or medicines are compounded and not signed by a physician licensed under the laws of the State.

Rule 7. *Spread of Venereal Disease Unlawful.*

It shall be a violation of these regulations for any infected person knowingly to expose another person to infection with any of

the said venereal diseases, or for any person to perform an act which exposes another person to infection with venereal disease.

Rule 8. *Prostitution to be Repressed.*

Prostitution is hereby declared to be a prolific source of syphilis, gonorrhoea, and chancroid, and the repression of prostitution is declared to be a public health measure. All local and State health officers whose duty it is to enforce laws directed against prostitution and otherwise to use every proper means for the repression of prostitution.

Rule 9. *Giving Certificates of Freedom From Venereal Diseases Prohibited.*

Physicians, health officers, and all other persons are prohibited from issuing certificates of freedom from venereal disease, provided this rule shall not prevent the issuance of necessary statements of freedom from infectious diseases written in such form, or given under such safeguards, that their use in solicitation for sexual intercourse would be impossible.

Rule 10. *Records to be Secret.*

All information and reports concerning persons infected with venereal diseases shall be inaccessible to the public except in so far as publicity may attend the performance of the duties imposed by these regulations and by the laws of the State.

## NOTES AND SUGGESTIONS.

Note 1. A rule providing penalties for violation of these regulations should be added if penalties are not specified by statute. It is thought preferable that the statute should prescribe a penalty for violation of the regulations of the State Board of Health. In any case the State law should be examined to make sure that it either prescribes penalties or gives the State Board of Health power to do so. The statutes should also give the State Board of Health the powers suggested by the following wording:

"The State Board of Health shall have power to make such regulations concerning venereal diseases, including the reporting thereof and quarantine of infected persons, as it may from time to time deem advisable."

Note 2. It is recommended that provision for intensive treatment in suitable hospitals while patients are under quarantine shall be made by the municipalities, counties, or the State at public expense, and that adequate hospital and clinic facilities of high standards shall be available to voluntary and compulsory patients.



Note 3. For the enforcement of these regulations it is recommended that States establish bureaus or divisions of venereal diseases under their State Boards of Health and appropriate the necessary funds.

Note 4. The issuance of arsphenamine or equivalents to health officers, institutions, and physicians at State expense under suitable restrictions is a valuable measure for preventing syphilis, as these substances render cases of syphilis non-infectious in the shortest possible time.

Note 5. Provision should be made for the examination of prisoners for venereal disease and their treatment. If they are still infectious when their prison terms have expired, they should be quarantined and treated until they can be released with safety to the public health.

Note 6. Laboratory tests for syphilis and gonorrhoea should be made for physicians by the laboratories of the State Board of Health and the health departments of the large cities.

Note 7. Due provision should be made for follow-up work and social service in connection with the prevention of venereal diseases.

Note 8. Institutions are needed for the segregation of persons who are, or are almost certain to become, venereal disease carriers and who can not be adequately controlled in any other way. Sufficient provision for the segregation of the feeble-minded is most important.

Note 9. It is recommended that the "Floating" or "Passing on" of persons having venereal disease from one community to another be prevented.

Note 10. It is suggested that the Bureau of Venereal Diseases carry on a campaign of public education in venereal disease prevention, and in the condition responsible for the dissemination of venereal diseases. The following regulations for the preparation and shipment of corpses were introduced and passed:

Under and by virtue of the provisions of an Act passed by the General Assembly of South Carolina, entitled, "An Act to Authorize the Executive Committee of the State Board of Health to Adopt, Promulgate, and Enforce Rules and Regulations for the Betterment and Protection of the Public Health of the State of South Carolina," the following rules and regulations are promulgated:

## RULES FOR TRANSPORTATION OF CORPSES

Rules adopted by the State Board of Health of South Carolina relative to the preparation, transportation and burial of the bodies of deceased persons:

Rule 1. By authority of the Act passed by the General Assembly of South Carolina, above referred to, it will be noted that any person who shall, after notice, violate, disobey, refuse, omit or neglect to comply with any rule of said Executive Committee of the State Board of Health, made by it in pursuance of this Act, shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined not exceeding the sum of one hundred (\$100.00) dollars, or imprisonment for thirty days.

Rule 2. No undertaker or embalmer within the State of South Carolina shall prepare for shipment or offer for shipment the body of any deceased person unless the shipment of such body be permitted under these rules, and unless such body be in all respects prepared for shipment in accordance with these rules and regulations; and no undertaker or embalmer shall offer for shipment, or deliver to any person for shipment, the body of any deceased person without having first securely fastened to the outer container of such body a certificate signed by himself or his duly authorized agent on his behalf, or, if the undertaker or embalmer be a corporation, by some duly authorized officer thereof, which certificate shall certify the cause of death of the person whose body is being transported under such certificate, with the date of death of such person, and a statement that said body has been prepared for shipment in accordance with the rules and regulations as promulgated by the State Board of Health of South Carolina. No common carrier shall within the State accept for transportation the body of any deceased person unless the same be accompanied by such an undertaker's certificate as is above mentioned. It shall be unlawful for any person, firm or corporation to offer for transportation the body of any deceased person, or accept for transportation the body of any deceased person unless the same be accompanied by a permit from the State Board of Health or some person authorized by the State Board of Health to issue such a permit authorizing such transportation. The State Board of Health will designate throughout the State certain persons who have authority to issue these permits for the transportation of corpses which will be issued by such persons on application, when the person who has authority to issue such



permit is satisfied that the issuance is proper. No common carrier shall under any circumstances accept for shipment or transportation any box, coffin or other container in which is the body of any deceased person, if fluids or offensive odors are escaping therefrom.

One full first-class ticket will be required for the transportation of the corpse, without regard to the age of the deceased, and the word "Corpse" must be plainly written on the face of a local ticket and on each coupon of a coupon ticket. A corpse will not be accepted for transportation unless accompanied by a passenger in charge. The conductor of any train upon which a corpse is transported shall make a record on the back of his station and trip report of the transportation of such body, giving the name of the deceased and the station to which the body is shipped.

It will be the duty of ticket, station, and baggage agents of all common carriers within this State to see that each burial case is properly marked on the "Paster" affixed thereto and that such paster shows the date, receiving station, point of destination, number and form of ticket, name of passenger in charge, and place of residence, together with name of agent of the common carrier who examines or accepts the same for shipment. If the corpse is destined to a point beyond the initial line, the initial of each road over which it is to pass must be written on the paper, also the terminal point of each road to which transfer is to be made with the connecting line, as shown on the coupons of the ticket.

Such agents will also see that the undertaker's certificate is properly filled out and executed by the undertaker, and that the paster has been properly filled out by the undertaker, and that the same is securely fastened on the end of the outer container before it is put into any car or other vehicle for transporting the same. The other, or remaining permit, such agent will deliver to the passenger who is in charge of the corpse.

The whole form must be made in *Duplicate*, either with a pen, carbon paper, or simplex paper, and the signature of the physician or coroner and undertaker must be on *both* the original and duplicate copies.

The undertaker's certificate and paster will be detached from the physician's certificate and permit and fastened on the end of the coffin box. The physician's certificate and permit will be handed to the passenger.

All this information is necessary to insure the prompt and correct transportation of the corpse.

Rule 3. The transportation of the bodies of persons who died of smallpox, Asiatic cholera, typhus fever, or bubonic plague, is absolutely forbidden.

Rule 4. The bodies of persons who have died of diphtheria, (membranous croup), scarlet fever, (scarlatina, scarlet rash), glanders, anthrax or leprosy, epidemic cerebro-spinal meningitis, or spotted fever, anterior poliomyelitis, or infantile paralysis, shall not be offered for transportation by any person or accepted for transportation by any common carrier unless prepared for shipment by being thoroughly disinfected by (a) arterial and cavity injection with an approved disinfectant fluid, (b) disinfecting and stopping of all orifices with absorbent cotton, and (c) washing the body with the disinfectant, all of which must be done by a *licensed embalmer*, holding a certificate as such, approved by the State Board of Health. After being disinfected as above, such body shall be enveloped in a layer of cotton not less than one inch thick, completely wrapped in a sheet and bandaged, and encased in an air-tight, zinc, tin, copper or lead-lined coffin or iron casket, all joints and seams hermetically soldered, and all enclosed in a strong, tight wooden box. Or the body being prepared for shipment by disinfecting and wrapping as above, may be placed in a strong coffin or casket, and said coffin or casket encased in an air-tight, zinc, copper, or tin case, all joints and seams hermetically soldered, and all enclosed in a strong outside wooden box.

Rule 5. The bodies who have died of typhoid fever, puerperal fever, erysipelas, tuberculosis and measles, or other dangerous communicable disease, other than those specified in Rules 3 and 4, shall not by any person be offered for transportation, nor be received for transportation by any common carrier, unless prepared for shipment by filling cavities with an approved disinfectant, washing the exterior of the body with the same, stopping all orifices with absorbent cotton, and enveloping the body with a layer of cotton not less than one inch thick, and well wrapped in a sheet and bandaged, and encased in an air-tight coffin or casket. *Provided*, that this shall apply only to bodies which can reach their destination within forty-eight hours from time of death. In all other cases such bodies shall be prepared for transportation in conformity with Rule 4, the air-tight sealing may be dispensed with.



Rule 6. The bodies of persons who have died of diseases that are not contagious, infectious, or communicable, or who have died from accident or violence, may be prepared for transportation and accepted for transportation or transported, when encased in a sound, substantial coffin or casket, and the same inclosed in a strong, outside wooden box, provided in each instance, that such body can be reasonably expected to reach its destination within thirty hours from the time of death, then and in that event, the body must be prepared for shipment by filling cavities with an approved disinfectant, washing the exterior of the body with same, stopping all orifices with absorbent cotton and enveloping the entire body in a layer of cotton not less than one inch thick, and all wrapped in a sheet and bandaged, and encased in an air-tight coffin or casket. But when the body has been prepared for shipment by being thoroughly disinfected by a licensed embalmer, holding a certificate as in Rule 4, the air-tight sealing may be dispensed with.

Rule 7. In the cases of the transportation of the bodies of persons who have died of contagious, infectious, or communicable diseases, the body must not be accompanied by persons or articles which have been exposed to the infection of the disease, unless certified by the health authorities to have been properly disinfected; and before selling transportation ticket agents shall carefully examine the outside container in which the body is being transported or offered for shipment, and carefully observe and note whether there are any indications that any of the foregoing rules and regulations have not been complied with, and such ticket agent shall carefully examine the transit permit and note the name of the passenger in charge, and of any others proposing to accompany the body, and such body shall not be accepted for transportation, if such examination discloses the fact that any of these rules and regulations have not been complied with. The transit permit shall specifically state the name of the person who is authorized by the public health authorities to accompany the body. In all cases where bodies are being transported under Rule 4, notice shall be sent by telegraph by the undertaker who prepares the body for shipment to the local health officer at the destination of the body, advising such officer of the date, route and train on which the body may be expected to arrive.

Rule 8. Every dead body must be accompanied by a passenger in charge, who must be provided with his own transportation, and

also a full first-class ticket marked "corpse" for the transportation of the body, and also a transit permit, showing a physician's or coroner's certificate showing the name of the deceased, the date and hour of death, and if the deceased died of a contagious, infectious, or communicable disease, the point to which the body is to be transported, and whether death was caused by any of the diseases specified in Rule 4, the name or names of those persons authorized by the health authorities to accompany the body. The permit for the transportation of the body shall be made in duplicate, and the signature of the member of the State Board of Health or of the other agent of the undertaker, shall be on each duplicate thereof. The undertaker's certificate and the paster of the original shall be detached from the transit permit, and pasted on the coffin container. The other certificates and the remainder of the transit permit shall be handed to the passenger in charge of the corpse. The whole duplicate file shall be delivered to the officer in charge of the baggage department of the receiving carrier, and shall be by him forwarded to the Secretary of the State Board of Health.

Rule 9. When the bodies of deceased persons are shipped by express, the whole original transit permit shall be pasted upon the outside box, and the duplicate forwarded with the express agent to the Secretary of the State Board of Health.

Rule 10. No corpse which has been buried shall be disinterred, except under authority of the Board of Health and strictly in accordance with the terms of a permit in writing to be issued by the State Board of Health authorizing such disinterment, which may be authorized in proper cases, and such permits may be issued by physicians or coroners throughout the State, who are authorized in writing by the State Board of Health to issue such permits; and every such disinterred body, no matter what the cause of death, shall be treated as infectious and dangerous to the public health, and shall not be accepted for transportation, unless such transportation has been approved and authorized by the State Board of Health, or the authorized agent of said Board, and all such disinterred bodies shall be inclosed in hermetically sealed (soldered) zinc, tin, or copper-lined coffin or box. Bodies which have been deposited in receiving vaults, upon being removed therefrom, will be treated and considered in all respects as disinterred bodies, and are within the terms of this rule.



Rule 11. Any person who knowingly violates any of the rules and regulations herein set forth for the preparation of bodies for transportation, or who accepts for transportation the body of any deceased persons, otherwise than in accordance with these rules and regulations, shall be prosecuted in accordance with the provisions of the Act of the General Assembly of South Carolina above referred to, and any undertaker and embalmer, or individual, firm or corporation, acting as such, who shall offer for transportation the body of any deceased person, transportation of which is forbidden by these rules and regulations, or which body shall not have been prepared for shipment strictly in accordance herewith, shall be prosecuted for violation of this Act, and in addition to such prosecution, any license which may theretofore have been issued to such undertaker or embalmer, whether individual, partnership, or corporation, shall be revoked and cancelled.

In addition to the other certificates above referred to any undertaker or embalmer who prepares the body of any deceased person for transportation in accordance with these rules and regulations, shall, in case such body be that of a person who died from any contagious, infectious, or communicable disease, firmly attach to the outer container of such body in a conspicuous position a card or paper upon which shall be plainly written or printed a statement to the effect that the body therein contained is that of a person who died from an infectious disease, which disease shall be named in such certificate, and notifying all persons that it is unlawful to open the container to which said notice is attached, and that such container shall not be opened save with permission under penalty of such punishment as is provided by law, and thereafter it shall be unlawful to open such container save on written authority from the State Board of Health, or from some member thereof, or from some coroner or public health officer, and if any person or persons shall be guilty of a misdemeanor and the violation of these rules and regulations, and upon conviction thereof shall be punished in accordance with the provisions of the Act above referred to, and it shall be unlawful for any to attach such certificate as is last above referred to, to any box or container in which is the body of a deceased person, and then in such case as is required by these rules and regulations, and any person attaching such certificate to any box, coffin, or container of any sort or description other than in the case aforesaid shall be held to have

violated these rules and regulations, and shall be punished in accordance with the provisions of the Act above referred to.

Rule 12. All rules and regulations or parts of rules and regulations heretofore passed or adopted by the State Board of Health and which are in conflict with these rules and regulations or any portion thereof are hereby repealed.

The foregoing rules have been adopted by the State Board of Health of South Carolina, and have been ordered published and promulgated to be in effect from and after April —, 1918, and all persons are notified that, in accordance with the laws of South Carolina, said rules and regulations have the full force and validity of law by virtue of the authority vested by law in the State Board of Health.

A report from the Committee on Child Welfare work was submitted by Dr. E. A. Hines.

The following officers were elected for the ensuing year: Dr. Robt. Wilson, Jr., Chairman, and Dr. James A. Hayne, Secretary and State Health Officer.

There being no further business, the Board adjourned to meet at the call of the Chairman.

JAMES A. HAYNE, M. D.  
Secretary.

Attested.

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## REGULATIONS FOR THE BETTER PROTECTION OF THE HEALTH OF CITIZENS AND SOLDIERS OC- CUPYING EXTRA CAMP AND CANTON- MENT AREAS IN SOUTH CAROLINA.

The State Board of Health of South Carolina being informed that certain areas within the State of South Carolina, which have been accepted, set aside and defined by the United States government as "camps and cantonments," are being rapidly occupied by soldiers of the army as training camps, and that as a result there is occurring marked congestion of the population in, and within the vicinity of, certain inhabited areas adjoining such camps and cantonments, and having knowledge that such congestion will promote the occurrence of and increase the spread of communicable diseases in such areas, the Executive Committee of the State Board of Health of South Carolina, in accordance with Act No. 419, page 744, of the Acts of 1912, of the General Assembly



of the State of South Carolina, deems it wise and necessary at this time to enact and enforce, as an addition to the regulations contained in the sanitary code of South Carolina, certain emergency sanitary regulations to be applied within the vicinity of all camps and cantonments, for the better protection of the health of the citizens of such communities, and for the better protection of the soldiers occupying such camps and cantonments.

Therefore, wherever in the State of South Carolina the United States government has accepted, defined and declared a certain area to be a camp, or cantonment, and is occupying and using such areas for the purpose of housing, training, or caring for soldiers; or wherever in the future such camps or cantonments as above defined may be established, an arbitrary area in the form of and defined as a zone, not less than five miles in width at any point, extending completely around every and all such camps or cantonments, and including all circumscribed territory not under the jurisdiction of the government, for the purpose of and within the meaning of the regulations hereinafter to be defined, shall be known as "an emergency sanitary zone," and there shall apply to and be enforced within all such emergency sanitary zones, the following sanitary regulations relating to (1) milk and milk products; (2) public food receptacles and utensils; (3) public water supplies; (4) disposal of human excreta; (5) sanitation of food depots.

#### *Milk and Milk Products.*

1. On and after January 1, 1918, the following regulations shall govern the production, grading, labeling, handling, carriage, storage, and sale of all milk, and milk products, intended for public consumption within the limits of emergency sanitary zones; and it shall be unlawful for any person, firm, partnership or corporation to sell, barter, trade or in any other manner dispose of any milk or milk products within any emergency sanitary zone, except in the manner hereinafter provided for.

The term "public consumption" is hereby defined to mean and include all milk and milk products, intended, sold, traded, given away, or in any other manner disposed of, for human consumption by the public or by any person or persons other than the owner or owners, or the immediate family of the owner or owners, of the dairy or other place where such milk or milk product is actually produced.

2. Cows: Cows shall be free from disease as determined by tuberculin tests and physical examinations, which shall be made at least once each year by a qualified veterinarian approved by the State Board of Health.

No cows shall be added to the dairy herd until they have passed a physical examination and the tuberculin test.

Every cow reacting to tuberculin or showing evidence of tuberculosis or other communicable disease shall be removed from the herd, and the premises shall be treated, and such cow disposed of, in such manner as will insure the protection of the herd, dairy and milk from infection or contamination by the diseased animal.

The presence of a diseased cow, in the herd from which milk is obtained, shall be considered *prima facie* evidence that milk is being obtained from the diseased cow.

Cows shall be curried and brushed daily and shall be kept in a cleanly condition.

3. Location of Stable: The stable shall be located on ground which is well drained, clean, and free from any material insanitary in character.

4. Construction: Stables shall have water-tight floors and gutters for proper drainage, and all walls and ceilings shall be tight and smooth. Proper stalls for feeding shall be provided and the bedding therein shall be kept fresh and clean.

5. Light: Provision shall be made for four square feet of glass light for each cow, and such light shall be of even distribution.

6. Ventilation: An automatic ventilating system should be installed if practicable.

7. Cubic Feet of Space Per Cow: There shall be provided not less than 500 cubic feet of space per cow.

8. Roof: A roof shall be provided, sufficient in size to protect the herd from rain and sunshine.

9. Cleanliness of Stables: All floors, gutters and stalls shall be maintained clean and free from manure. Gutters shall be cleaned, scraped, washed out with water and drained, daily. Walls, ceiling and ledges; mangers, partitions, and windows shall be kept clean and free from dust and debris; and such cleaning shall be carried out between the periods of milking.

10. Air: The air of all stables shall be maintained clean and free from dust during the periods of milking, and feed, hay or other material shall be handled at a time, or in such manner as



will prevent the presence of dust in the air during milking periods.

11. **Storage of Food:** The storage of foodstuffs above stalls or mangers, in lofts, or otherwise, should be avoided; and shall be permitted only when the floor of such loft is of such construction as will prevent the passage of foodstuffs, dirt or dust through the floor and into the air beneath.

12. **Removal and Care of Manure:** The barn yard shall at all times be kept clean and well drained, and manure or other refuse should be removed from the premises daily. When not so disposed of, it shall be removed twice a day from the barn or stable and stored in a fly and wind-proof receptacle.

### *Milk Room.*

13. **Location, Light and Ventilation:** The milk room shall be located in a position free from insanitary surroundings, and shall be provided with all openings necessary for proper light and ventilation; and all openings into the milk room shall be securely screened against flies, provided no milk room door, window or other opening shall connect directly with any stable or dwelling.

14. **Walls and Ceilings:** The walls and ceilings shall be of smooth, tight construction, and of such material as will permit easy and thorough cleansing, and the walls and ceilings shall be maintained free from dust, dirt, and debris.

15. **Floor:** The floor shall be of impervious material, properly graded and drained, and capable of being scrubbed and washed down, and such floor shall be maintained constantly clean.

No portion of the milk room shall be occupied for sleeping purposes, or by any animal, or by fowls.

16. No insanitary privy or water closet shall be permitted on the premises, and no water closet, privy or cesspool, urinal, or other source of contamination, shall be erected, kept or permitted within one hundred and fifty (150) feet of the milk room or building where the cows are stabled, or in which milk or other dairy product is handled, stored, mixed or altered.

17. **Milking:** The hands of all milkers shall be washed clean and wiped dry, and the udders and flanks of all cows shall be wiped clean with a damp, clean cloth immediately prior to milking, and small-topped milk pails shall be used. If straining cloths are used, two must be provided, one for the morning's milking,

and the other for the night's milking. They must be washed in an alkaline solution and sterilized by boiling for twenty (20) minutes each day before use. No milk obtained from a cow within 15 days before, or five days after parturition shall be sold.

18. Sterilizing: All utensils, instruments or machines used in the production, handling, storage, delivery, or sale of milk, shall be washed with a brush and washing soda, or with alkaline powder and water, and shall then be rinsed in clean water and sterilized. Where available, steam under pressure, or jet or live steam shall be used for sterilizing, and the exposure to such steam shall be for not less than five (5) minutes. When steam is not available, all milk vessels and utensils must be sterilized by boiling in water for not less than five (5) minutes.

19. Cooling: All milk must be cooled to 50 degrees Fahrenheit, or below, within one hour after it has been drawn from the cow, and shall be maintained at or below this temperature until placed in the pasteurizer. It shall be again cooled after pasteurization to 50 degrees Fahrenheit, or below, cooling to be begun immediately and completed within a period of five hours. After pasteurization milk shall be maintained at 50 degrees Fahrenheit, or below, until delivered to the consumer.

20. No milk shall be dipped from cans or poured into other vessels except in the regular milk room of a dairy or pasteurization plant. No milk shall be bottled upon any wagon.

21. No one shall deliver milk to, or remove any milk bottle or receptacle from a dwelling where any contagious disease exists, until authorized by the State Health Officer or his accredited representative.

22. No one shall place or permit to be placed in any vessel or utensil used in the production, sale, or delivery of milk, any offal, swill, kerosene oil, or other offensive material; nor shall he return, or cause to be returned, any milk can or bottle which is in an unclean or offensive condition.

23. All water and all ice used in connection with the production, cooling, handling, storage or sale of milk or milk products, shall be obtained from a certified source approved by the State Health Officer, or his accredited representative.

24. On and after January 1, 1918, all persons engaged in the production, pasteurization, handling, or distribution of milk or milk products of Grade A. shall be required to possess certificates of immunity to smallpox, typhoid, and para-typhoid fevers, or in



lieu thereof, certificates of vaccination against smallpox, typhoid and para-typhoid fevers, and each certificate shall be signed by a licensed practicing physician, approved by the State Health Officer, and such certificates shall be presented for inspection upon the request of the State Health Officer or his accredited representative.

25. Any person suffering from any contagious disease, or in whose residence, or among whose associates any contagious disease exists, shall keep away from cows, milk, milk room, or milk utensils. When any person engaged in the production, storage or distribution of milk is suffering from any contagious or infectious disease, or when such disease exists among his employees or their immediate associates, or within any building used in any way in the milk business, no milk shall be sold or delivered from such dairy or milk establishment, except by permission of and in the manner prescribed by the State Health Officer. No person who has anything to do with the production or handling of milk shall enter any place where contagious or infectious disease exists, nor have any communication with any person who is an occupant of such infected place. Every producer who sells milk directly to the consumer shall promptly notify the Board of Health of any case of communicable disease among his employees, their immediate associates, or members of his family.

Every milk producer who sells his product to a middleman for resale shall notify said dealer of the existence of any communicable disease as aforesaid, and said dealer shall at once notify the Board of Health.

#### CHEMICAL COMPOSITION, GRADE AND PASTEURIZATION.

1. On and after January 1, 1918, all milk to be consumed as such, or to be used in the manufacture of milk products intended and sold for public consumption within any emergency sanitary zone shall contain not less than 3.5 per cent. milk fat, and not less than 8.5 per cent. solids-not-fat, and shall be known as standard milk.

2. All standard milk sold in emergency sanitary zones shall be graded as hereinafter defined and each and every grade shall be pasteurized.

3. Grading: Within the meaning of these regulations, grading is hereby defined as the separation of milk into three classes, to

be known as Grade A, Grade B and Grade C, respectively, as determined by the bacterial count and the sanitary conditions surrounding production, handling, carriage and storage.

4. **Bacteria Count:** Within the meaning of these regulations, bacteria count is hereby defined as the counts obtained after an examination of ten samples of milk from the same source, five secured before pasteurization over a period of not less than one week, nor more than one month, and five secured after pasteurization over a period of not less than one week nor more than one month.

5. **Pasteurization:** Within the meaning of these regulations, pasteurization is hereby defined as the heating of milk, in bulk or in bottles, to a temperature of 145 degrees Fahrenheit, and the holding of such milk at this temperature for a period of not less than 30 minutes. Provided: that no milk shall be repasteurized.

6. **Grade A:** Milk of this class shall be obtained from cows free from disease as determined by tuberculin tests and physical examinations, of which one each year shall be made by a qualified veterinarian and shall be produced and handled under the sanitary conditions hereinabove defined. All milk of this class shall be pasteurized, and at least four out of five samples each must show a bacterial count not in excess of 200,000 colonies per c. c. before pasteurization, and at least four out of five samples each must show a bacterial count not in excess of 10,000 colonies per c. c. at the time of delivery to the consumer. Dairies from which Grade A milk is obtained must score at least 80 on the United States bureau of animal industry score card.

7. **Grade B:** Milk of this class shall be obtained from cows free from disease as determined by tuberculin tests and physical examinations, of which one each year shall be made by a qualified veterinarian, and shall be produced and handled under sanitary conditions hereinabove defined. All milk of this class shall be pasteurized, and at least four out of five samples each must show a bacterial count not in excess of 1,000,000 colonies per c. c. before pasteurization, and at least four out of five samples each must show a count not in excess of 50,000 colonies per c. c. at the time of delivery to the consumer. Dairies from which Grade B milk is obtained must score at least 65 on the United States bureau of animal industry score card.

8. **Grade C:** Milk of this class shall be obtained from cows free from disease as determined by tuberculin tests and physical



examinations and shall include all milk in which four out of five samples each show a count in excess of 1,000,000 colonies per c. c. All milk of this class shall be pasteurized, or may be heated to a higher temperature for not less than 20 minutes, and four out of five samples of this milk each must show less than 50,000 bacteria per c. c. at the time of delivery to the consumer.

9. All bottles, cans, or other containers in which milk, as above defined, is stored, handled, or sold, shall be labeled "Standard Milk," and the label shall show, clearly and distinctly, first, the grade of the contained milk; second, the date of production; third, the name of the producer, and fourth, the date of pasteurization; provided, that no bottle, can or container shall be labeled as above defined, until authority for the use of such label has been first obtained from the State Health Officer or his representative; and the presence of any material in any container other than the product indicated by the label shall be considered prima facie evidence of violation of this regulation.

### *Cream.*

1. Cream shall be free from all constituents foreign to milk and shall be divided into two grades, namely, Grade A and Grade B.

2. Grade A cream shall be obtained from pasteurized Grade A milk, and shall contain not more than 100,000 bacteria to the c. c.

3. Grade B cream shall be obtained from pasteurized Grade B milk and shall contain not more than 200,000 bacteria to the c. c.

4. Provided, that when the resultant milk from which cream is obtained, is not intended for human consumption, then, pasteurization of such milk may be omitted and the cream pasteurized instead.

5. Cream containing 18 per cent. milk fat shall be known as standard cream; cream containing less than 18 per cent. milk fat shall be known as under-standard cream; cream containing more than 18 per cent. fat shall be known as super-standard cream.

All cream shall be produced, handled and sold under sanitary conditions not inferior to the conditions regulating the production and sale of milk, and shall be kept at a temperature of 50 degrees Fahrenheit or below from the time of production until delivered to the consumer.

6. All bottles, cans or other containers in which cream as above defined is stored, handled or sold, shall be labeled standard cream, sub-standard cream, or super-standard cream, as the case may be, and the per cent. of milk fat shall be noted thereon, and such label shall state clearly and distinctly, the grade of the cream, the date of production and the name of the producer; provided, that no bottle, can or other container, shall be labeled as above defined, until authority for the use of such label has been first obtained from the State Health Officer or his representative; and the presence of any material in any container other than the product indicated by the label shall be considered prima facie evidence of violation of this regulation.

### *Butter.*

1. Butter shall be the clean, non-rancid product made by gathering, in any manner, the fat of fresh or ripened cream, or milk, into a mass, and may contain a small portion of other milk constituents, or added harmless coloring matter; it may be salted or may be salt-free, and shall contain not less than 80 per cent. milk fat.

2. All butter shall be produced from Grade A or Grade B pasteurized milk or pasteurized cream and shall be handled and sold under sanitary conditions not inferior to the conditions regulating the production and sale of milk.

3. All boxes, pails, bottles, tubs, or other containers, in which butter, as above defined, is stored, handled or sold, shall be labeled "Standard Butter 80 per cent. fat," and the label shall show clearly and distinctly the date of production, and the name of the producer; provided, that no box, pail, bottle, tub or other container shall be labeled as above defined, until authority for the use of such label has been first obtained from the State Health Officer or his representative; and the presence of any material in any container other than the product indicated by the label shall be considered prima facie evidence of violation of this regulation.

### *Ice Cream.*

1. Standard ice cream shall be the frozen product made from pasteurized cream and sugar or pasteurized cream and pasteurized milk and sugar, and shall contain not less than 8 per cent. milk fat. It shall not contain any preservatives, neutralizing agent, saccharine, renovated or process butter, fats or oils foreign to



milk or to other ingredients allowed. It may contain wholesome egg, harmless coloring matter, flavoring, sound, clean, mature fruits and nuts, pastries and approved thickening not to exceed 0.5 per cent.

2. Ice cream as above defined shall be divided into two grades, namely: Grade A and Grade B.

3. Grade A ice cream shall be made from Grade A milk or cream, and the finished product shall not contain more than 100,000 bacteria per c. c. at the time of delivery to consumer. Manufacturing plants from which Grade A ice cream is obtained shall score not less than 80 upon the official score card hereinafter defined.

4. Grade B Ice Cream: Grade B ice cream shall be the product made from milk or cream not lower than Grade B, and the finished product shall contain not more than 1,000,000 bacteria per c. c. at the time of delivery to the consumer. Manufacturing plants from which Grade B ice cream is obtained shall score not less than 65 upon the official score card hereinafter defined.

5. All ice cream shall be produced, handled and sold under the same sanitary conditions regulating the production and sale of milk, and all ice cream shall be kept frozen from the time of manufacture until delivered to the consumer.

6. No product failing to comply with the above regulations shall be manufactured, dispensed, or sold under the name of "ice cream."

7. All freezers, boxes, cans, or other containers in which ice cream is stored, handled or sold shall be labeled "Standard Pasteurized Ice Cream," and the label shall show, clearly and distinctly, first, the grade of the contained ice cream; second, the date of manufacture, and, third, the name of the manufacturer; provided, that no freezer, box, can or other container shall be labeled as above defined, until authority for the use of such label has been first obtained from the State Health Officer, or his representative; and the presence of any material in any container other than the product indicated by the label, shall be considered as prima facie evidence of violation of this regulation.

*Score Card for Ice Cream Manufacturing Plants.*

	Perfect	Allow.
Location .....	15	
Above ground .....	5	
Free from contaminating surroundings (no score if bad) .....	3	
Protection from street dust .....	3	
Not connected with any other room .....	2	
No other business in same establishment .....	2	
Construction .....	15	
Well lighted (natural) .....	2	
Well ventilated .....	1	
Thoroughly screened .....	2	
Water closet does not open directly into establishment .....	2	
Separate room for washing utensils .....	2	
Floor; smooth, watertight, well drained .....	4	
Walls and ceilings; smooth and tight .....	2	
Equipment .....	30	
Steam at all times .....	5	
Hot water at all times (no credit unless running hot water) .....	3	
Sterilizer for utensils .....	3	
Connections for sterilizing apparatus .....	2	
Pasteurizer:		
Holding machine .....	4	
Automatic recording device .....	1	
(Perfect score if product manufactured from pasteurized milk or cream).		
Refrigeration: Mechanical (proper ice box) ...	2	
Freezer: Type, connections, etc. ....	2	
Sanitary piping .....	2	
Wash basins and towels, ample .....	1	
Utensils:		
Condition .....	1	
Ample for the service .....	1	
Racks for .....	1	
Employees:		
Health certificates for .....	1	
Clean suits provided .....	1	



	Perfect	Allow.
Methods .....	40	
Freedom from flies .....	2	
Protection of material:		
Before manufacture .....	3	
During manufacture .....	3	
After manufacture .....	3	
Utensils and apparatus sterilized (washed in hot water, 1) .....	3	
Cleanliness:		
Floors .....	3	
Windows .....	1	
Apparatus .....	3	
Walls and ceiling .....	1	
Utensils .....	3	
Employees .....	3	
Character of materials used:		
Milk and cream, Grade A (grade B, 4) .....	6	
Condensed milk, eggs, etc. ....	2	
Thickeners, none used .....	1	
Artificial coloring, none .....	1	
Degree of refrigeration of final product .....	2	
Total .....	100	

### *Skim Milk.*

1. Skimmed milk or separator milk, when intended for human consumption, shall contain not less than 8.75 per cent. of milk solid, and shall have been pasteurized either before or after removal of milk fat.

2. All skim milk shall be produced, handled, and sold under the same sanitary conditions regulating the production and sale of milk, and shall be kept at a temperature of 50 degrees Fahrenheit, or below, from the time of production until delivered to the consumer.

3. All bottles, cans, or other containers in which skim milk, as above defined, is stored, handled or sold, shall be clearly and distinctly labeled "skim milk, pasteurized"; provided, that no bottle, can or other container, shall be labeled as above defined until authority for the use of such label has been first obtained from the State Health Officer, or his representative; and the presence of any material in any container other than the product

indicated by the label shall be considered prima facie evidence of violation of this regulation.

### *Butter Milk.*

1. Buttermilk shall be the product resulting and remaining after the churning of milk or cream in making butter, after the removal of the butter. Any other product resulting from the skimming, souring or treatment of milk in any way so that it resembles butter milk, shall be indicated by a distinctive name other than buttermilk.

2. Buttermilk, or any resembling product of milk, as above defined, shall be separated into two grades, namely: Grade A and Grade B.

3. Grade A shall be the product of Grade A milk or cream.

4. Grade B shall be the product of Grade B milk or cream.

5. All buttermilk, and all resembling products shall be produced, handled and sold under the same sanitary conditions regulating the production and sale of milk, and they shall be kept at a temperature at or below 50 degrees Fahrenheit from the time of manufacture until delivered to the consumer.

6. All bottles, cans, or other containers in which buttermilk or its resembling product as above defined, is stored, handled, or sold, shall be labeled muttermilk, or with the name of the resembling product, as the case may be, and the label shall state clearly and distinctly the grade of the product, the date of production, and the name of the producer; provided, that no bottle, can or other container, shall be labeled as above defined until authority for the use of such label has been first obtained from the State Health Officer or his representative, and the presence of any material in any container other than the product indicated by the label shall be considered prima facie evidence of violation of this regulation.

### *Adjusted, Modified, Condensed and Homogenized Milks or Cream.*

1. These regulations are not to be construed as preventing the manufacture and sale of adjusted, modified, condensed or homogenized milk or cream; provided, the milk or cream used in their preparation conforms to these regulations; and provided further, that the bottle, can, or other container in which such products are stored, handled or sold, is clearly and distinctly labeled with the



name of the contained product, its percentage, composition, date of production, grade of milk used, and name of producer; provided, that no bottle, can or other container, shall be labeled as above defined, until authority for the use of such label has been first obtained from the State Health Officer or his representative; and the presence of any material in any container other than the product indicated by the label shall be considered *prima facie* evidence of violation of this regulation.

2. Such preparations shall be handled and sold under the same sanitary conditions regulating the handling and sale of milk, and all such products, except when sterilized and contained in sealed, air-tight packages, shall be kept at a temperature of 50 degrees Fahrenheit, or below, from the time of production until delivered to the consumer.

## REGULATIONS GOVERNING THE DISPOSAL OF HUMAN EXCRETA IN EMERGENCY SANITARY ZONES.

1. On and after January 1, 1918, all buildings, or other places in any emergency sanitary zone where human beings live, are employed, or congregate, shall be provided with a sewered water closet or a sanitary privy, for the catchment or receiving of human discharges.

2. On and after January 1, 1918, it shall be unlawful in any emergency sanitary zone for any property owner, or his authorized agent, to construct, maintain, or permit to exist on property, or properties, under his control, where sewer connection has not been made, a privy, unless the same is a sanitary privy as herein-after defined.

3. On and after January 1, 1918, it shall be unlawful in any emergency sanitary zone for any person to throw out, deposit or bury any excreta from the human body, solid or liquid, or to dispose of said substance in any manner other than into and through a properly sewered water closet or a properly constructed sanitary privy.

4. A sanitary privy within the meaning of these regulations is hereby defined as one built, rebuilt, constructed or reconstructed in such manner that it shall conform to and be identical with one of the following types, namely: (a) Chemical type, (b) box and pail type, (c) septic tank type, (d) wood and concrete box type, and the type of construction in every case shall be such that the

excreta deposited in such privy will not fall upon the ground, but into a watertight, adequately ventilated receptacle, the contents of which are protected from and are inaccessible to flies, fowls or small animals.

### *Box and Pail Type.*

1. The box and pail type of sanitary privy is hereby defined as one consisting essentially of one or more metal, water-tight pails or cans for the reception of excreta, enclosed within and protected by a ventilated flyproof wooden box, inaccessible to fowls and small animals. Such sanitary privy shall be constructed as follows:

2. Pails: All pails or cans shall be of iron, not less than 24 gauge, cylindrical in shape and watertight, and such pails or cans shall receive all excreta deposited in such sanitary privy, and shall be of a size sufficient to contain and confine such excreta between the periods of removal.

3. Box: All such pails shall be inclosed within a box of a height at least two inches greater than the height of the pail, and of a width at least five inches greater than the width of a pail, and the length of the box shall be a length at least six inches greater than the diameter of each pail provided; and such box shall be constructed with top, bottom and sides of well seasoned lumber, joined and fitted together in a substantial and workmanlike manner, and such box shall be ventilated by a properly constructed flue and other appropriate openings, and all such openings shall be screened. And the top of such box shall contain one or more openings for the introduction or deposition of excreta, and all such openings shall be provided with a tight fitting hinged cover or lid, constructed in such manner as to be fly-proof when closed, and hinged in such manner as to automatically fall and close of its own weight when released; and the rear side or back of such box, or in lieu thereof, the top of such box, shall be constructed in the form of a door or lid, capable of being opened or raised for the introduction or removal of a pail, and such door shall close, and when not in actual use for the removal of a pail, shall remain closed, in such manner as will prevent the entrance of flies, fowl, or small animals; and such door shall be provided with a lock or other adequate means with which it shall be securely fastened against accidental or intentional opening by unauthorized persons.



4. Removal of Pails and Disposal of Contents: Whenever a municipal or private scavenging system is available, all pails shall be removed and the contents disposed of in accordance with the laws or regulations governing the system in use; where such method of disposal is not available, each pail, before complete filling, shall be removed from the box-container, covered with a flyproof lid and the contents disposed of by complete incineration or by burial.

When-burial is the method selected, the location chosen shall be situated at least 200 feet from the nearest dwelling or water supply, and shall be one which will permit the buried excreta to remain undisturbed for at least 12 months; and the excreta shall be buried in the earth, at such location, at a depth not greater than two feet, and shall be covered by at least three inches of well packed surface soil; and such excreta shall remain undisturbed for at least 12 months.

1. The Wood and Concrete Box Type: The wood and concrete box type of sanitary privy shall consist essentially of two parts, namely: a lower concrete portion and an upper wooden portion, and the lower portion shall consist of a water-tight box of concrete, rectangular in shape, and divided by a concrete partition into two compartments: and the upper portion shall consist of a superimposed fly-proof box of wood divided by a wooden partition into two compartments; and the wooden partition shall be continuous with the concrete partition below and each wooden compartment shall be continuous with the concrete compartment below; and the upper wooden portion shall be provided with openings for the deposition of excreta into the concrete portion; and the two portions shall be joined together in a workmanlike manner, and shall be adequately ventilated, and the whole when complete shall provide a water-tight fly-proof box.

#### *Construction.*

2. Lower Portion: The side walls, partition wall and bottom of the lower portion shall be constructed of concrete, which shall be not less than four (4) inches in thickness, and all surfaces shall be finished on the inside with a coat of cement mortar not less than three-fourths of an inch in thickness, so applied and of such consistency as shall make each compartment water-proof.

3. Upper Portion: The side walls, partition wall and top of the upper portion shall be constructed of well seasoned wood,

fitted and joined together in a workmanlike manner, and such upper portion shall be provided with one or more openings on each side of the dividing partition, through which all excreta shall be introduced or deposited, and not otherwise; and all such openings shall be provided with a tight fitting, hinged, cover or lid, constructed in such manner as to be fly-proof when closed, and hinged in such manner as to automatically fall and close of its own weight when released; and all such lids or covers shall be provided with locks or other adequate means by which they may be securely closed and fastened whenever required, and in such manner as will prevent accidental or intentional opening by unauthorized persons.

And the concrete portion shall exceed the wooden portion, in width, not less than 12 inches, and the longitudinal openings so provided shall be closed with a tight fitting wooden top, and such top shall be provided with an opening on each side of the partition wall through which all excreta shall be removed, and not otherwise; and each opening shall be provided with a tight fitting cover of metal or other approved material, which cover shall completely close the opening in such manner as will prevent the entrance of flies, fowls or small animals, and such cover shall be fitted or hinged or fastened in such manner as will prevent its loss or accidental or intentional opening by unauthorized persons, and such covers shall remain constantly in position and closed in the manner specified, except at such times when it becomes necessary to raise the cover for the purpose of removing the excreta from the box, and such cover shall be returned to its proper position immediately following the emptying of the box.

4. Dimensions: Each compartment of the concrete portion shall be of sufficient size to provide space for, and accommodate without removal and without overflow, all excreta which may be deposited therein over a period of not less than six (6) months.

5. Operation: Each compartment of such concrete-and-wood box shall be used alternatively, and in such manner that one compartment shall remain idle and unused for a period of not less than six (6) months from the time the compartment was last used, and the covers or lids of such unused compartment shall remain closed and shall be locked or otherwise secured, as hereinabove defined, throughout the period of non-use.



6. Disposal of Contents: The contents of the non-used compartment shall be removed not oftener than once in six months and may be disposed of by removal, in any convenient way, to a field, garden or other open and exposed ground, and there lightly but completely covered with earth.

#### *Chemical Type.*

1. The chemical type of sanitary privy for the purpose of and within the meaning of these regulations, shall consist of and shall provide a water-tight, fly-proof, ventilated receptacle, connected with an attached to a superimposed fly-proof, toilet bowl or urinal by such means as will insure the cleanly introduction and complete deposition of all excreta into the receptacle; and such receptacle shall be strongly constructed of wrought iron or other time-resisting, leak-proof material, and shall be of sufficient size to contain and confine all excreta deposited therein over a period of not less than six months, and shall be provided with a mechanical agitator or stirrer of strong and permanent construction, easily and conveniently operated by hand and capable in use of thoroughly agitating and stirring the excreta-content; and such receptacle shall provide for and shall contain at all times a germicidal and parasitocidal material, which shall come in intimate contact with all excreta, and in such manner and in such quantity and for such time as will insure an effluent incapable of producing or transmitting disease at the time of the removal of such effluent.

#### *Septic Tank Type.*

1. The septic tank type of sanitary toilet within the meaning of these regulations, shall consist essentially of the following parts, namely: a toilet bowl or seat; a liquifying or sludge chamber; an effluent chamber or tank, and all connections and fittings required to join, connect and form one continuous operative system, and the parts of such system shall be constructed and operated as follows:

2. Toilet Bowl or Seat: The toilet bowl or seat shall be protected by a flyproof cover or lid, which shall automatically close when released; and such toilet bowl or seat shall be attached to and connected with the liquifying or sludge chamber by such means as will insure the cleanly introduction and complete deposition of all excreta into the liquifying or sludge chamber.

3. **Liquifying or Sludge Chamber:** The liquifying or sludge chamber shall be constructed of waterproof, time-resisting material, shall be flyproof, and shall be adequately ventilated, and shall be of sufficient size to contain and confine, during the process of digestion and liquifaction, all excreta deposited; and such liquifying or sludge chamber shall be connected with the effluent chamber or tank by an overflow pipe; and such liquifying or sludge chamber shall contain at all times sufficient fluid to maintain a surface level equal in height to the level of discharge of the overflow pipe.

4. **Overflow Pipe:** The overflow pipe shall be of sufficient size and so arranged that the opening of entrance shall be at least three inches below the fluid level of the material contained within the liquifying or sludge chamber, and all liquid matter shall be removed through such discharge pipe and shall be received into the effluent chamber.

5. **Effluent Chamber or Tank:** The effluent chamber or tank shall be constructed of time-resisting material, shall be water tight and flyproof, and shall be of sufficient size to contain and confine, between the periods of removal, all effluent received from the liquifying or sludge chamber; and such effluent shall be withdrawn and removed from the effluent chamber in one of the two following ways:

(a) The effluent may be withdrawn in any convenient way and may be disposed of in any convenient manner, provided, there shall first be added to such effluent and before removal, a germicidal material, which shall come in intimate contact with such effluent, and in such manner and in such quantity, and for such time, as will insure an effluent incapable of producing or transmitting disease, or

(b) Such effluent may be disposed of without treatment, by removal to an absorption field or bed, through a sub-surface drainage system, as hereinafter described; in which case there shall be attached to and form a part of the effluent chamber a discharge pipe, of sufficient size, and installed at a water level identical with that of the inlet pipe; or in lieu of such method of discharge, there shall be provided a siphon discharge, automatic in action, which shall be capable of removing and which shall remove, at predetermined intervals, the contents of the effluent tank, and in either case, the discharge pipe shall be attached to a line of vitrified sewer pipe, not less than four (4) inches in diameter,



which shall convey the effluent without leakage to the absorption field or bed; and such sewer pipe shall approach and reach such absorption bed on a gradient not greater than six inches in 100 feet, and shall there be joined to and connected with the tile drain pipe forming a part of such absorption field or bed.

6. Absorption Field or Bed: The absorption field or bed shall consist of agricultural tile drain pipe laid beneath the surface soil at a depth not greater than twelve (12) inches, and the soil surrounding the drain pipe shall be sufficiently porous to absorb all effluent conveyed to the absorption field, and such field shall be located not less than 100 feet from the nearest dwelling and not less than one hundred feet from the nearest well or spring, and shall be located in a manner incapable of contaminating such water supply.

7. Tile Drain Pipe: The tile drain pipe shall be not less than three (3) inches in diameter, and each section shall be not greater than twelve (12) inches in length, and the aggregate length shall be as many feet as there are gallons of flow daily for each person using the system; and such drain pipe shall be laid end to end, and each section shall be separated from the next by an interspace of one-quarter of an inch, and each end shall be covered above with material capable of preventing the entrance of earth and the clogging of the pipe; and such pipe may be laid as a single pipe line system, or such pipe may be laid as a multiple pipe line system, the lines of which shall be not less than four feet apart and shall be joined one to the other with suitable connections; and in either case the system selected shall be laid with a fall approximately two inches in 100 feet, and the whole connected and completed in such manner as will insure an even distribution of the effluent over the entire field.

## REGULATIONS GOVERNING THE PUBLIC USE OF FOOD RECEPTACLES AND UTENSILS.

1. On and after January 1, 1918, it shall be unlawful in any emergency sanitary zone for any person, firm, partnership or corporation owning or controlling any railroad train, station, public or private school, public building, hall, church, theater, picture show, market, playground, park, lavatory, drug store, soda fountain, store, hotel, restaurant, boarding house, office, office building, factory, manufacturing establishment or other public place, to furnish, provide, place, expose, or permit for public use,

in any such building, or place, any cup, saucer, glass, or other receptacle, knife, fork, spoon, or other utensil, which has been conveyed to, or connected with the mouth of any person or individual in the consumption of any food, confection, beverage or drink, until such receptacle or utensil has been washed in an alkaline solution, and sterilized by immersion in boiling water, or by exposure to super-heated steam, for a period, in either case, of not less than five (5) minutes. The term "public use" is hereby construed to mean and include all receptacles or utensils used in common by the public or by more than one individual; provided, this regulation is not intended to include or apply to private dwellings.

#### REGULATIONS GOVERNING THE PUBLIC USE OF WELLS, PUMPS, CISTERNS, SPRINGS AND OTHER WATER SUPPLIES, PUBLIC OR PRIVATE.

1. On and after January 1, 1918, it shall be unlawful in any emergency sanitary zone, for any person, firm, partnership or corporation owning or controlling any well, pump, spring, cistern or other source of water supply, public or private, to use any water from such source of supply in the preparation or manufacture of food intended for human consumption by the public, or to use such water in the cleansing of utensils employed in such preparation or manufacture, or to furnish, provide, or permit for public use, any water from such source of supply until a biological analysis of such water has been made by a representative of the State Board of Health and a certificate obtained, declaring such water to be fit for drinking purposes; and such certificate shall be obtained at least once in three months, and shall continue in force not longer than three months; provided, such certificates may be revoked at any time in the manner hereinafter defined.

2. The term "food" as above used is hereby defined to include all food products, such as milk, meat, vegetables, fruit, drink, liquor, confectionery and condiment, whether simple, mixed or compound, when intended or used for human consumption.

3. The term "public use" is hereby defined to mean and include the use of such water or such food by the public in common, or by one or more individuals other than the owner or owners of such water supply, or the immediate family of the owner or owners.

4. On and after January 1, 1918, whenever, in the opinion of the State Health Officer or his accredited representatives, any



well, spring, cistern, pump or other source of water supply in any emergency sanitary zone, by reason of location, construction or use, is considered a source of danger or a menace to the public health, he or his representative is hereby authorized to enter upon the property upon which such water supply is situated, for the purpose of examining the location and water shed of such suspected water supply, and in order to obtain therefrom as many samples of such water as may be required for biological analysis; and whenever, after analysis, such water is found to be unfit for drinking purposes, any certificate issued as hereinabove provided for, shall be immediately revoked, and such well, spring, cistern, pump, or other source of water supply from which such samples were obtained, shall be placarded, and such placard shall be not less than eight by 12 inches in size, shall be conspicuously placed and shall state in large letters the following:

#### “NOTICE.

“This water supply has been examined by the State Board of Health of South Carolina and has been found **DANGEROUS TO HEALTH** and **UNFIT FOR DRINKING PURPOSES**.

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“This NOTICE must not be removed under penalty.”

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and it shall be unlawful for any person, firm, partnership, or corporation owning or controlling such source of water supply, or any other person whomsoever, to disfigure, obliterate, destroy, or remove such placard until permission in writing for the removal of such placard has first been obtained from the State Health Officer or his qualified representative.

#### REGULATIONS GOVERNING THE PREPARATION, CARE AND SALE OF FOODSTUFFS.

1. On and after January 1, 1918, it shall be unlawful in any emergency sanitary zone for any person to engage in the preparation, manufacture, storage, handling or sale of foodstuffs intended for human consumption, or for any person already so engaged to continue in the preparation, manufacturing, storage, handling, or sale of foodstuffs intended for human consumption, except in accordance with the regulations hereinafter defined.

2. The Word "Person" Defined: The word "person" used in these regulations shall be construed to import both the singular and plural, as the case demands, and shall mean and include any person, firm, partnership, association, society or corporation, owning, controlling or operating any premise or place as herein-after defined.

3. The Word "Employee" Defined: The word "employee" or "employees" used in these regulations shall be construed to mean and include every individual acting under the direction of the person owning, controlling or operating any premise or place as hereinafter defined, and employed, hired, or for any other reason present for work and on duty in such premise or place.

4. The Word "Foodstuffs" Defined: The word "foodstuffs" used in these regulations is hereby defined to mean and include all meat and meat products, fish, game, milk and milk products, cereals and grain, and the products of cereals and grain, vegetables, fruit, drink, liquor, confectionery and condiment, whether simple, mixed or compound, or any other material used by man for food and intended for human consumption.

5. Premises Defined; Certificate Required: On and after January 1, 1918, it shall be unlawful in any emergency sanitary zone for any person to operate or maintain within any building, room, apartment, dwelling, basement, or cellar, or other such premise or place a restaurant, hotel, lodging house, boarding house, public inn, grocery store, fruit store, delicatessen, bakery, ice cream manufactory or parlor, candy manufactory or store, soda water stand, coffee house, chop house, vegetable market, fish market, meat market, sausage factory, packing house, slaughter house, cannery, milk depot, produce and commission house, or other place where foodstuffs, as above defined, are stored, manufactured, prepared, handled, offered for sale, sold, served, exchanged, or otherwise disposed of for human consumption; or to vend or peddle, or otherwise dispose of, from any basket, box, wagon, cart or street stand, any foodstuffs as above defined, without having first obtained from the Board of Health a certificate signed by the Health Officer, or his accredited representative, certifying that the premise or place as above defined has been inspected and has been found clean, healthful and sanitary; provided, that no certificate shall be issued authorizing the operation or maintenance of any premise or place as above defined, until such premise or place has been inspected and found



to comply with the regulations hereinafter defined; and provided further, that such certificates shall be revocable at any time, without notice, whenever the person owning, controlling or operating any premise or place as above defined, shall fail, refuse or neglect to comply with the regulations hereinafter defined; and provided further, that whenever in the opinion of the health official or officials authorized to sign and issue such certificates, the person owning, controlling or operating such premise or place has failed, refused or neglected to comply with these regulations, such opinion shall be accepted as prima facie evidence of violation of these regulations.

### *Building.*

6. Construction, Reconstruction or Repair: Every premise or place as hereinabove defined, in which foodstuffs are prepared, manufactured, stored, handled, served, sold or exposed for sale, shall be constructed, reconstructed or repaired in the manner hereinafter provided for.

7. Side Walls and Ceilings: The side walls and ceilings of any premise or place as above defined, shall be of water tight, well fitted materials, constructed in such manner as will exclude all dust, dirt, animals, rodents, insects or other sources of contamination, and such side walls and ceilings shall be finished, painted or covered in such manner as will render all exposed surfaces smooth and capable of ready and easy cleansing; and such side walls and ceilings shall be maintained free and clean of all dust, dirt, cobwebs and loose or torn wall paper, dirty hangings or other dirty wall coverings.

8. Floors: The floors of every premise or place as hereinabove defined shall be constructed of tongued and grooved pine flooring, closely fitted and firmly set, and not less than seven-eighths (7-8) of an inch thick, or shall be of material equal or superior in quality, strength and structure, and in any case the floor shall extend to and be fitted to the walls at every point without intervening space between the edges of the floor and the sides of the wall, and the whole shall be constructed or repaired in such manner as to prevent the entrance of rodents or insects; provided, that every sausage factory, slaughter house, packing house, milk depot or ice cream manufactory as hereinabove defined, shall have the ground area covered with a floor of concrete, which concrete shall be not less than three (3) inches thick, and shall be overlaid with

a wearing coat of cement mortar not less than three-fourths (3-4) of an inch thick, or with Mosaic tiling or other like material, and such floor shall rest without any intervening space between, upon the ground or upon filling of clean earth, sand, cinders, broken stone, or brick, gravel or similar material, which filling shall be free from animal or vegetable substances; or in lieu thereof, the floor shall be constructed of reinforced concrete with a top dressing or wearing coat as hereinbefore provided for, and the said concrete floor, in either case, shall extend to and be closely applied to the walls surrounding such floor, without any intervening space between; provided further, that every premise or place, erected, constructed or reconstructed after the promulgation of these regulations, for use as, or whenever thereafter used or occupied as, a sausage factory, slaughter house, packing house, fish or meat market, milk depot or ice cream manufactory, shall be constructed with a concrete floor as above defined, and in addition, shall be provided with a foundation wall of concrete, brick or stone, which shall extend completely around, and shall be hermetically sealed to, such concrete floor; and such wall shall be not less than six (6) inches in thickness, shall extend into and below the surface of the surrounding soil at least two (2) feet, and above the surface of the surrounding soil at least one (1) foot, and shall extend to a height of at least one (1) foot above the level of the first or ground floor of the building; and all such floors as above described shall be frequently cleaned and shall be maintained free and clear of all dirt, rubbish, food waste or debris, or other like material.

9. Light: Every premise or place as above defined, shall be provided with windows, light shafts, light wells, or other means of natural illumination, for the admission of light, and the number required shall be the number necessary to admit, without recourse to artificial illumination, all the light required in the preparation, manufacture, storage, serving or sale of foodstuffs between the period two hours after sunrise, and two hours before sunset, on a clear day.

10. Ventilation: Every premise or place as hereinabove defined shall be provided with doors, windows, or ventilators, sufficient in number to admit, without draft, a continuous supply of fresh air, and to withdraw and remove promptly all foul air, and all smoke, vapors or odors, arising during the preparation, manufacture, handling, serving or sale of foodstuffs.



11. Screening: Every premise or place as hereinabove defined shall be screened, and all doors, windows, transoms, ventilators, light wells, shafts, or other openings in any such premise or place, when not otherwise securely closed with glass, metal or wood, or other fly proof material, shall be covered and protected by wire mesh screens, of not less than eighteen (18) mesh; and all such wire screens shall be attached to well constructed frames; and such screened frames shall closely approximate all such openings in such manner when closed as will prevent the ingress of flies, mosquitoes or other like insects; and all such doors, windows, or other openings shall be maintained closed or shall be provided with springs or other mechanical means which will insure automatic and perfect closure whenever released after opening; and all such doors, windows or other openings, when used as a means for ingress or egress, shall remain open only during the period of time actually necessary for ingress or egress; and no foodstuffs as hereinabove defined shall be prepared, manufactured, stored, handled, served, sold or offered for sale, except within a premise or place screened in the manner hereinabove defined; provided, that foodstuffs as above defined may be transported in and sold from a cart, wagon, basket, or like movable vehicle, when such vehicle and the contained foodstuffs are securely and completely covered and protected with clean canvas, or with material equally impervious to dust, dirt, insects or other sources of contamination.

12. Furniture and Fixtures: All furniture and fixtures in any premise or place as hereinabove defined, including all counters, shelves, trays, racks, tables, blocks, binns, cases or like instruments or receptacles used in the storage, manufacture, handling, serving or sale of foodstuffs, shall be kept free and clean of dust, dirt, food waste or debris; and all cases, binns, boxes or other food containers shall be of such construction as will exclude all dust, dirt, animals, rodents or insects, and shall be kept closed, except during the period when opened for the admission or removal of foodstuffs, or for the purpose of cleansing the containers.

#### *Foodstuffs.*

13. Adulteration and Misbranding of Foodstuffs: No person, as above defined, shall misbrand or adulterate any foodstuffs prepared, manufactured, handled, served or sold in any premise or place as above defined, or handle, or serve, or sell therein, any mis-

branded or adulterated foodstuffs when legally notified of the fact of misbranding or adulteration.

The words "adulterate" and "misbrand" are here used within the meaning and intent of the terms as defined and provided for in Sections 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417 and 418 of the Sanitary Code of South Carolina.

14. Unwholesome, Unclean and Unhealthy Foodstuffs: No person as above defined shall prepare, manufacture, handle, serve or sell, or offer for sale, in any premise or place as hereinabove defined, any foodstuff which by contact with other materials, or through chemical or biological action, or by exposure to animals, rodents, or insects, has become unclean, unwholesome, unhealthy or otherwise unfit for human consumption.

15. Protection of Foodstuffs: Every premise or place as above defined, where bread, cakes, pastry, confectionery, or other cooked or prepared foodstuffs are stored, prepared, manufactured, handled, served or sold, shall be provided with food receptacles, cases or containers for the reception of foodstuffs as above defined, and all such receptacles or containers shall be of such form and construction as will insure the protection of such foodstuffs from dust, dirt, animals, rodents, insects or other sources of contamination, and all foodstuffs as above defined, unless securely covered, enclosed, wrapped or packed and sold in the original wrapper or package, shall be stored and kept in such receptacles, cans or containers as above defined, except during the period of time required when removed for the purpose of serving or sale, or for the purpose of cleansing such containers.

16. Refrigeration of Foodstuffs: Every premise or place as above defined where fresh or uncured fish, game, meat or meat products, or slaughtered poultry, or other readily decomposable products, or where milk or milk products (unless sterilized and contained in sealed, air-tight packages) are stored, kept, manufactured, handled, served or sold, shall be provided with an ice box, refrigerator or cold storage room, and all such foodstuffs as above defined shall be stored and kept in such ice box, refrigerator or cold storage room, except during the period of time when removed for the purpose of preparation, manufacture, serving or sale, or for the purpose of cleansing the container, and such ice box, refrigerator or cold storage room shall be well constructed and shall be properly ventilated and drained, and whenever foodstuffs are contained therein, the temperature of all food compart-



ments shall be maintained at 50 degrees Fahrenheit, or below; and when both milk and milk products and other foodstuffs as above defined are stored and kept therein, such milk or milk products shall be stored and kept in such manner as will prevent contact with or contamination by any other foodstuff capable of affecting the flavor, taste or wholesomeness of milk or milk products; and all such ice boxes, refrigerators or cold storage rooms shall be thoroughly cleaned at least once each week, shall be kept reasonably dry, and shall be maintained free from food waste or debris, and from foul odors, slime and mould.

*Utensils, Instruments and Machinery.*

17. Classification: All dishes, cups, saucers, glasses, bottles, pots, pans, kettles, tableware, boilers, collanders, meat slicers and grinders, saws, cleavers or other utensils, instruments or machinery used in the preparation, manufacture, handling, serving or sale of foodstuffs in any premise or place as above defined, shall be of such material and of such construction as will permit thorough washing and cleansing in the manner hereafter provided for; and all such instruments, utensils or machinery, for the purpose of and within the meaning of these regulations, shall be divided into two classes, namely: Class "A" and Class "B;" and Class "A" shall include all utensils and instruments conveyed to or connected with the mouth in the consumption of foodstuffs; and Class "B" shall include all other utensils, instruments or machinery used in the preparation, handling, manufacture, serving or sale of foodstuffs.

18. Cleansing or Sterilization: Class "A." No utensil or instrument of Class "A" which has been conveyed to, or connected with the mouth of any person, employee or other individual in the consumption of foodstuffs, shall thereafter be again used by any other person, employee or individual in the consumption of foodstuffs until such utensil or instrument has been washed in an alkaline solution and sterilized by immersion in boiling water for at least five (5) minutes, or by exposure to superheated steam for at least five (5) minutes; and all such utensils, instruments and machinery of Class "A," after such cleansing and sterilization, shall be protected from contamination by or exposure to dust, dirt, animals, rodents, insects, or other sources of contamination.

Class "B": No utensil, instrument or machine of Class "B" used in direct or intimate contact with any foodstuffs during

preparation, manufacture, storage, handling, serving or sale, shall, after such use, be again used for such purpose until such utensil, instrument, or machine has been cleansed of all such foodstuffs and thoroughly scrubbed and washed with clean hot water and soap or an alkaline washing powder; provided, that no utensil, instrument or machine of Class "B" used in direct or intimate contact with any foodstuffs in the preparation, manufacture, storage, or delivery of ice cream, or like frozen product, shall, after such use, be again used for such purpose until such utensil, implement, or machine has been washed in an alkaline solution and sterilized by immersion in boiling water for at least five (5) minutes, or by exposure to superheated steam for at least five (5) minutes; and all such utensils, instruments and machinery of Class "B," after such cleansing or sterilization, shall be protected from contamination by, or exposure to dust, dirt, animals, rodents, insects, or other sources of contamination.

20. Class "B." All utensils, instruments and machinery of Class "B," used in the transportation, movement, or weighing of foodstuffs, such as trucks, wheelbarrows, wagons, carts, baskets, crates, boxes, scales, balances, and the like, shall be frequently cleaned and kept free of all food waste or debris, and all dirt, rubbish, oil, grease and like material.

21. Towels, Dish Cloths, Wash Rags, Scrubbing Brushes: All towels, dish cloths, wash rags, scrubbing brushes, and like implements, intended for use in the preparation, manufacture, handling, serving or sale of foodstuffs, or for use in the cleansing of utensils, instruments or machinery as above defined, shall be clean and free from dirt, grease, and food debris, and after such use shall be washed clean with soap and water and dried.

22. Water Supply: Every premise or place as above defined shall be provided with all the water required in the preparation, manufacture, handling, storage, serving or sale of foodstuffs, or for drinking or cleansing purposes, and such water shall be obtained from a source of supply approved by the Health Officer; and whenever such water is stored on the premises prior to use, the reservoir, tank, cistern, barrel, water cooler, bottle, bucket, or other container for the storage of such water shall be protected from contamination by dirt, debris, or other material, shall be kept clean and free of all such material, and shall be covered or screened in such manner as will prevent access to or contamination by animals, rodents or insects.



23. Ice: All ice used in any premise or place, as above defined, and intended for the refrigeration or cooling of any foodstuff, shall be obtained from a source of supply approved by the Health Officer; and all such ice, on delivery, shall be thoroughly washed with clean water and shall be stored and kept in a clean refrigerator, ice box, or other receptacle; and all such ice when intended for or used for admixture with any foodstuffs, shall be broken or ground or pulverized with clean instruments in a clean container, and shall be stored or kept in a clean receptacle; and such ice shall be handled mechanically with clean tongs, scoops, spoons, or other instruments or utensils, and shall not be directly handled by the hands.

24. The word "clean" defined: The word "clean" as above used, is intended to mean free and clear of all vegetable, mineral or animal matter foreign to the receptacle, container or instrument used in storing, handling or serving such ice.

25. Washing Facilities: Every premise, as above defined, shall be provided with a lavatory or wash room for the use of employees, and every hotel, lodging house, boarding house, public inn or like place shall, in addition, be provided with a lavatory or wash room for the use of patrons, and all such lavatories or wash rooms shall be provided with soap and towels, and the towels provided shall be clean and unused since laundering or manufacture, and shall be sufficient in number to supply a separate and individual towel for the use of each and every employee or other person using the lavatory or wash room; and all such lavatories or wash rooms, when located within 300 feet of of a public water supply system, shall be provided with running water, and when located beyond 300 feet, shall be provided with water sufficient in amount to furnish each employee or other person an adequate, clean and separate supply for washing purposes; and the side walls and ceilings of such lavatories, or wash rooms, shall be maintained free of dust, dirt, cobweb and loose, torn or dirty wall paper, hangings or like wall coverings, and the floors, bowls, basins and fixtures shall be frequently scrubbed and cleaned, and shall be maintained free from dirt, stains and human contamination.

26. Toilets: Every premise, as above defined, shall be provided with adequate toilet facilities for the use of employees of each sex, and every hotel, restaurant, lodging house, boarding house, public inn, or like place shall, in addition, be provided with

adequate toilet facilities for the use of patrons; and all such toilet facilities shall be sanitary in construction and operation, and shall be located in a room or rooms separate and distinct from that portion of the premises in which foodstuffs are stored, manufactured, prepared, handled, served or sold; and such room or rooms shall be lighted, ventilated and screened; and the side walls and ceilings shall be maintained clean and free from dust, dirt, cobwebs, and loose or torn wall paper, dirty hangings, or other dirty wall covering, and the floor, toilet bowls, seats and fixtures shall be frequently scrubbed and cleaned with soap and water, and shall be maintained free from dirt, debris, rubbish, stains and human contamination.

27. Cuspidors: Every premise or place as above defined shall be provided with cuspidors for the reception of material expectorated by employees and patrons; and the number provided shall be at least one cuspidor for every six men employees, and at least one cuspidor for every 20 women employees, and at least two cuspidors for the use of patrons; and all such cuspidors shall be of water-proof material and shall be removed, emptied, and thoroughly cleaned at least once in 24 hours.

28. Dogs Not Allowed: No dog or dogs shall be allowed in any premise or place as hereinabove defined, where foodstuffs are stored, manufactured, prepared, handled, served, sold or offered for sale; and it shall be unlawful for any person or employee as above defined, or for any other individual, to bring any dog or dogs into, or to allow or permit any dog or dogs to enter, any such premise or place.

29. Sweeping and Dusting: No dry sweeping or dusting shall be allowed in any premise or place as above defined, and all sweeping of floors or sidewalks shall be immediately preceded by sprinkling or the application of well moistened sawdust or like material, in such manner as will prevent the contamination of the air with dust, dirt or debris; and all accumulations of dust, dirt, or debris upon the walls, ceilings or fixtures of any such premise or place shall be removed by wiping with cloths, dust rags, or other like material.

#### *Personnel.*

30. Clothing, Aprons, Jackets and Caps: Every person or employee when present or on duty in any premise or place, as hereinabove defined, shall wear clean clothing, and when engaged in the



preparation, manufacture, handling, serving or sale of foodstuffs, shall wear a jacket or apron of cotton or linen; provided, that when engaged in such work in a bakery, ice cream or candy manufactory, soda water stand, vegetable, fish or meat market, sausage factory, packing house or cannery, or in the kitchen of a hotel, restaurant, lodging house or public inn, such person or employee shall wear both jacket and apron and a clean cap of cotton or linen, or in lieu of a jacket, such person or employee shall wear an apron provided with a bibb; and all such jackets, aprons and caps shall be removed and replaced with clean material whenever soiled.

31. Care of Nails, Forearms and Hands: Every person or employee engaged in the preparation, manufacture, handling, serving or sale of foodstuffs in any premise or place as hereinabove defined, before work is begun each day, shall cut and clean his or her nails, and shall wash his or her forearms and hands with soap and water, and shall dry them with clean individual towels not previously used since manufacture or laundering; and such cleaning of nails, forearms and hands shall invariably be performed after each visit to the toilet; and such person or employee shall maintain his or her nails, forearms and hands clean and free from all material foreign to the foodstuffs engaged upon in work.

32. Expectorating: No person or employee as hereinabove defined, shall expectorate, or in any other manner discharge from the human body, any material or substance upon the walls, floors, equipment or foodstuffs in any premise or place as hereinabove defined.

33. Sleeping and Dressing Room and Clothing: No person or employee, or other individual, shall occupy for sleeping or dressing purposes, or use for the storage of wearing apparel, any room or rooms in any premise or place used in the preparation, manufacture, handling, storage, serving or sale of foodstuffs.

#### *Communicable Diseases.*

34. Certificate Prior to Employment: On and after January 1, 1918, no person or employee shall engage in the preparation, manufacture, handling, serving or sale of foodstuffs in any premise or place as hereinabove defined, until such person or employee has obtained a certificate, signed by a reputable, licensed physician, certifying that such person or employee is free from any communicable disease, or the contagium of any commu-

nicable disease, and such certificate shall be renewed once each year.

35. **Certificate When Sick or Ill:** No person or employee, as above defined, who becomes sick or ill, or apparently sick or ill, subsequent to the issuance of a certificate as above defined, shall engage in, or if already engaged in, shall continue in the preparation, manufacture, handling, serving or sale of foodstuffs in any premise or place as hereinabove defined, or continue on duty in or be present in such premise or place, until such person or employee has consulted a reputable, licensed physician, and has obtained from him a certificate stating that such person or employee is free from any communicable disease, or the contagium of any communicable disease.

36. **Certificate to be Approved by Health Officer:** All certificates as above defined shall be subject to the approval of the State Health Officer, and shall be presented for inspection upon his request or upon the request of his accredited representative.

37. **Restrictions When Exposed to Disease:** Whenever a case of tuberculosis, typhoid fever, smallpox, diphtheria, scarlet fever, or other contagious or infectious disease, is present in the home, house, apartment, building or other place where any person or employee as above defined lives or resides, or whenever such place of residence is placarded and under quarantine by reason of the occurrence of any disease as above defined, such person or employee shall not engage in, or if already engaged in, shall not continue in the preparation, manufacture, handling, serving or sale of any foodstuffs in any premise or place as hereinabove defined, until permission has been obtained from the State Health Officer, or his accredited representative, authorizing such person or employee to engage in, or continue in, the preparation, manufacture, handling, serving or sale of foodstuffs in any such premise or place.

38. **Collection and Disposal of Garbage, Rubbish and Waste—Terms and Definitions:** The term "garbage" as hereinafter used shall mean and include all animal and vegetable refuse, liquid or solid (except dead animals or excrementitious material) and all stale or unsound fruit, vegetables, bread, fish, meat or other foodstuffs unfit for human consumption.

The term "rubbish" as hereinafter used shall mean and include all empty tin cans, broken bottles; glass, boxes, or crockery;



straw, loose paper, rags, old boots, shoes or hats, dirt, chips, sticks or broken pieces of lumber, or other like litter or trash.

The term "waste" as hereinafter used shall mean and include all cinders, ashes, broken brick, plaster or stone, sawdust, sand or like material, when free and clear of garbage or rubbish.

39. Garbage: Every premise or place as above defined shall be provided with one or more metal, water-tight garbage containers, sufficient in number to receive and retain, without overflow, all garbage as above defined, which may accumulate between the periods of removal, and such containers shall be provided with close fitting, fly-proof metal covers and shall be of such size as to be easily manhandled; and all such garbage shall be kept in such garbage containers, and such garbage containers shall be kept closed and covered in such manner as will prevent access to flies, rodents or animals, and such containers shall be removed and emptied whenever filled, and the contents shall be disposed of in either one of the two following ways: (a) the garbage may be removed by the municipal garbage collection system, when such system is in operation and available, or, in lieu thereof, such garbage shall be removed, and destroyed by complete incineration; and it shall be unlawful for any person owning, controlling, or operating any premise or place as above defined, to have, maintain, permit or keep on such premises, any garbage except in such garbage container, or dispose of such garbage except in the manner provided for.

40. Rubbish and Waste: Every premise as above defined shall be maintained free of all rubbish and waste as above defined, and shall be provided with a can, box, barrel, or other container, into which all such rubbish or waste shall be deposited; and such container shall be of sufficient size to contain and confine all material deposited therein; and all lumber, boxes, barrels, loose iron or like material when present in any basement or cellar or in or on any lot, yard, alley or other open place, and allowed to remain on the premises, shall be elevated not less than two feet above the floor or ground, and placed upon supports, with a clear, intervening space beneath; and it shall be unlawful for any person owning, controlling or operating any premise or place as hereinabove defined, to have, maintain, permit or keep on the premise any rubbish, waste, lumber, boxes, barrels, loose iron and like material, except in the manner provided.

Columbia, S. C., June 21, 1918.

A call meeting of the Executive Committee of the State Board of Health was held on June 21st, with the following members present: Dr. Robt. Wilson, Jr., Dr. C. C. Gambrell, Dr. Wm. Egleston, Dr. Wm. Lester, Dr. D. B. Frontis, Dr. W. W. Dodson and Dr. E. A. Hines. The purpose of the meeting was to consider certain resolutions looking to the preservation of the personnel of the Executive Committee of the State Board of Health, the executive staff of the same, and other institutions in which medical men are employed in South Carolina, by appeal to the Surgeon General of the United States Army. The resolutions as read were approved by the Executive Committee.

# RESOLUTIONS FOR CO-ORDINATING STATE BOARDS AND DEPARTMENTS OF HEALTH WITH THE OFFICE OF THE SURGEON GENERAL OF THE UNITED STATES ARMY.

*Whereas*, In the application of the volunteer principle in military organization, all concerned and prompted by their self-respect and their duty to their country at this time must lay aside, amid the conflicts of military and civilian claims for service, their own judgment and preferences and defer to the judgment and wishes of those charged with the responsibility for military efficiency; and,

*Whereas*, Our country has adopted the volunteer principle for securing a large force of medical officers for our army; and,

*Whereas*, In conformity with the aforesaid preambles, the medical profession of the country is so depleted that state health agencies are not only finding it impossible to secure additional medical officers, but are finding it impossible to hold even the small force that has not yet applied for commissions in the army; and,

*Whereas*, This large demand on the medical profession for medical officers is resulting in a conflict of interests, a competition between the various state health agencies and our army, for which the army is in no way responsible, and which is contrary to the larger interest of our country and which is causing great disorganization among state health agencies; and,

*Whereas*, The medical service of the army and the state health agencies are in fact, and should be in practice, co-ordinate, work-



ing with the fullest understanding and in closest harmony for the protection of the health of the military and civilian population; and,

*Whereas*, The aforestated competition and conflict of interests is due to the absence of some central co-ordinating authority responsible alike for maintaining the health of the army and the health of the civilian population, upon which the health of the army largely depends; and,

*Whereas*, The office of the Surgeon General of the army affords a means and affords the *only* means for centralizing and co-ordinating these closely related, mutually dependent agencies; therefore,

*Be it resolved*, That the Conference of State and Provincial Boards of Health of North America request and urge the President of the United States to designate the Surgeon General of the army to accept responsibility for maintaining the integrity and efficiency of any state health agencies signatory to these resolutions during the period of the war; and be it further,

*Resolved*, That in the event the President of the United States shall designate the Surgeon General to accept the aforesaid responsibility, the State health agencies signatory to these resolutions do hereby agree to bring their entire executive staffs under the control and the direction of the Surgeon General of the army by requiring every member of their executive staff to apply for and accept, in case it is granted, a commission in the Medical Reserve Corps of the army, or some other subdivision of the army under the control of the Surgeon General; and, be it further,

*Resolved*, That nothing in this resolution is to be construed as a reflection upon the United States Public Health Service.

The Secretary was authorized to go to Washington and meet with the committee composed of Drs. W. S. Rankin, North Carolina; Chas. E. Dalton, Vermont; E. St. Clair Drake, Illinois; Eugene R. Kelley, Massachusetts; W. S. Leathers, Mississippi, and B. F. Royer, Pennsylvania, to devise ways and means to carry out the above proposed resolutions.

Mr. David R. Coker, President of the State Council of Defense, appeared before the committee in regard to a health campaign to be made in South Carolina for the first two weeks in August under the auspices of the South Carolina Medical Association

and the South Carolina State Council of Defense. It was moved and seconded that the Executive Committee co-operate to the fullest extent. The following subcommittee was appointed to co-operate with the State Council of Defense: Drs. Hayne, E. A. Hines and C. C. Gambrell.

There being no further business the board adjourned to meet at the call of the Chairman.

JAMES A. HAYNE, M. D.,

Attested.

Secretary.

Columbia, S. C., July 11, 1918.

The regular quarterly meeting of the Executive Committee of the State Board of Health was held in the office of the Secretary at 5 p. m., July 11, with the following members present: Drs. Wm. Egleston, Wm. Lester, C. C. Gambrell, E. A. Hines, D. B. Frontis and W. W. Dodson.

The minutes of the last meeting were read and approved. The Secretary made a report of the doings of the committee in Washington, composed of the following: Drs. W. S. Rankin, Chas. E. Dalton, E. St. Clair Drake, Eugene R. Kelley, W. S. Leathers and B. F. Boyer. The Secretary was authorized to take such further steps as may be necessary to carry out the plans.

Dr. Ernest Cooper appeared before the board and made a report of the South Carolina Sanatorium, which was reported to be full, and its affairs progressing satisfactorily.

Mr. Hugh Murchison, Field Secretary of the State Council of Defense, met with the board and the program for the Health Institute was completed and approved.

It was moved and seconded that the Executive Committee of the State Board of Health meet for two days—August 1st and 2nd—to lend every aid and support to the campaign of the State Council of Defense for the preservation of health during the first two weeks in August.

There being no further business the committee adjourned to meet at the call of the Chairman.

JAMES A. HAYNE, M. D.,

Attested.

Secretary.



Columbia, S. C., September 20, 1918.

A call meeting of the Executive Committee of the State Board of Health was held at the offices of the Secretary on September 20th, for the purpose of discussing whether or not new members should be elected on account of vacancies created by the volunteering of the following members for service in the army: Drs. W. J. Burdell, C. C. Gambrell and Wm. Egleston.

Those present at this meeting were Drs. Robt. Wilson, Jr., Chairman; D. B. Frontis, E. A. Hines, Wm. Egleston, W. W. Dodson, and James A. Hayne, Secretary. The minutes of the last meeting were read and approved.

The board decided that in view of a resolution passed by the board in regard to service of members in the army, and as there is still a quorum of the Executive Committee, that no new members would be elected.

After a statement by the State Health Officer, it was moved by Dr. E. A. Hines, and seconded by those present, that Mrs. Ruth A. Dodd be elected as State Supervisor of Public Health Nurses at a salary of \$1,800 a year and expenses. Motion carried.

Dr. Egleston moved that the Chairman and Secretary be empowered to move the State Laboratory from Columbia to Charleston if they saw fit to do so. Motion carried. In the meantime, the Secretary was empowered to employ James R. Cain as Acting Director of Laboratory, and Dr. Herbert M. Smith as Acting Bacteriologist, and such other assistants as might be necessary for the proper conduct of the laboratory.

There being no further business the board adjourned to meet at the call of the Chairman.

JAMES A. HAYNE, M. D.,  
Secretary.

Attested.

The regular quarterly meeting of the Executive Committee of the State Board of Health was held November 7th, with the following members present: Dr. Robt. Wilson, Jr., Dr. E. A. Hines, Dr. W. W. Dodson and the Secretary.

The first business before the board was the consideration of a letter from Mr. J. F. Thomason, of Winthrop College, for co-ordinating the extension department of Winthrop College with the State Board of Health, and the establishment of a health organization among the teachers of the State. The Secretary

was directed to confer with Mr. Thomason to perfect a plan. A letter was read from the State Board of Charities and Corrections, in which the State Board of Health was asked to provide medicine and medical care for the State Industrial Prison for Women. This was agreed to by the board. Miscellaneous reports were then heard from the laboratory and other departments.

There being no further business the board adjourned.

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Columbia, S. C., December 19, 1918.

The regular quarterly meeting of the Executive Committee of the State Board of Health, was held in the offices of the Secretary at 10 a. m., December 19, with the following members present: Drs. Robt. Wilson, E. A. Hines, D. B. Frontis, Wm. Lester, Wm. Egleston, W. W. Dobson, Rutledge Osborne, Comptroller General, and the Secretary.

Reports of standing committees were made. Report on communicable diseases by Dr. Jas. A. Hayne; report on sanitary inspection of State Schools and Colleges by Drs. E. A. Hines and D. B. Frontis; report on State Penal and Charitable Institutions by Drs. Wm. Lester and Wm. Egleston; report of Bureau of Vital Statistics by C. W. Miller, Chief Clerk; report on Laboratory by Jas. R. Cain, Acting Director; report of South Carolina State Sanatorium by Dr. Ernest Cooper, Superintendent; report of Field Secretary of the South Carolina State Sanatorium by Mrs. Annie I. Rembert; report of State Chemist and Bacteriologist, Francis L. Parker, M. D.; report of Rural Sanitation by Acting Director, Vance W. Brabham, M. D., and the report of the County Health Officer of Greenville County, Dr. S. J. Taylor. A full report was also made by P. A. Surgeon C. C. Akin, who has charge of the influenza epidemic for the United States Public Health Service. These reports were read and fully discussed by the Board. A letter was read from John F. Thomason proposing a definite plan for cooperation for Winthrop College extension with the State Board of Health, and proposing that a State Council of Health be formed to consist of the Superintendent of Education, State Health Officer, a representative from Winthrop College, and the Governor. It was also agreed that a Health League should be formed. A plan was definitely agreed upon,



and a committee consisting of Drs. Egleston, Hines and Hayne was appointed by the Chairman to carry out this plan.

The subject of salaries for the coming year was discussed and it was agreed that the Board recommend an increase in salaries for all employees of the State Board of Health.

Dr. Egleston moved that excerpts giving the salient points of the various reports be printed in the form of a letter, and sent to the members of the House of Representatives. The Secretary was instructed to cable Dr. W. J. Burdell, now serving in France, as Captain of the Medical Corps, who was severely wounded, greetings of the season. The Secretary was also instructed to telegraph Miss Julia P. Tompkins, Clerk of the Board since 1908, expressing their sympathy, and hoping for her speedy recovery. The matter of recommending to the Claims Committee the refunding of \$1,000.00 forfeit received from the firm of Harbeck & Heslep for failure to complete contract at the Sanatorium according to specifications was read and received as information by the Board.

There being no further business, the Board adjourned.

JAS. A. HAYNE, M. D.  
Secretary.

Attested.

### LABORATORY.

*To the Chairman and Members of the Executive Committee,  
South Carolina State Board of Health:*

Gentlemen: The Laboratory of the State Board of Health as it is today is the work of Dr. F. A. Coward. Elected as Director of a Laboratory that existed only in name, he through the past several years has built up a laboratory that is known and patronized by the physicians of the State and has their confidence. We were unfortunate enough to lose the services of Dr. Coward when he was called into the active service of the United States Army in April. Since which time, however, the policy and methods of the Laboratory have remained in all essentials as he established them, nor is it considered advisable that they should be changed under the present circumstances and limitations.

The Laboratory force at present, in addition to the Acting Director, consists of H. M. Smith, Bacteriologist; Miss Elizabeth

Ayer, Laboratory assistant; and Miss Margaret Davis, Stenographer. Dr. Smith conducts the Wassermann tests and prepares the Pasteur treatments, while Miss Ayer, a University graduate, was recently secured to assist in the work of the Laboratory generally.

A tabulated statement of the work of the Laboratory for the year is appended. From this it will be seen that there has been an increase of some 50 per cent. in the number of Wassermann tests performed, while there has been a decrease of 12 per cent. in the number of other examinations made. The Pasteur department, too, shows a decrease of 20 per cent.

The increase in the number of Wassermann tests is directly attributable to the campaign conducted by the public health agencies toward the suppression of venereal diseases. The decrease in the number of other examinations is due to the going into military service of numerous physicians, among them many who were most regular patrons of the Laboratory. Within the past few months, too, the wide prevalence of influenza left physicians with little time for attention to other diseases. The number of Pasteur treatments is merely influenced by one of the yearly fluctuations, the history of the department being one of increase, coupled with these unexplained, occasional, downward fluctuations.

*Recommendations:* The present Laboratory equipment is sufficient for our needs. However, if appropriations permit, I would recommend the furnishing by the Laboratory of containers for the submission of specimens. This would tend to more consistent results, while safeguarding from infection to a greater extent the workers in the Laboratory, and tending to greater convenience for all concerned.

There are at present on file numerous copies of scientific journals, which have been received by the Laboratory from year to year. These should be bound to preserve them from loss and to present their contents for more ready reference.

In conclusion permit me to call your attention to the following recommendations, made at the time of the April meeting of your committee:

"Dr. Coward, in the course of his reports to your committee from year to year, has called attention to the increase in the prevalence of rabies in this State, and has urged the passage of a dog license law. This law has not been enacted, although I believe the



time has come when a campaign for its enactment should be commenced. But even without such a law there is decided room for work toward the prevention, or at least lessening of rabies in South Carolina. The incubation period in animals, the prevalence of the disease, the fact of its being endemic in certain communities, the mode of its transmission—all are facts which, if properly stressed and explained would tend toward its ultimate elimination.

"I would, therefore request of your committee permission for the Laboratory to undertake a campaign of education under the direction, and with the approval, of the State Health Officer."

Respectfully submitted,

JAMES R. CAIN,  
Acting Director.

#### WASSERMANN TESTS.

##### Blood:

Very Strongly Positive (++++)	1,435
Strongly Positive (+++)	198
Positive (++)	125
Weakly Positive (+)	158
Doubtful (+→)	238
Negative (—)	4,566
Anticomplementary (AC)	334

7,054

##### Spinal Fluid:

Very Strongly Positive (++++)	4
Strongly Positive (+++)	1
Positive (++)	2
Weakly Positive (+)	0
Doubtful (+→)	4
Negative (—)	13

7,078

#### PASTEUR DEPARTMENT.

Total number of patients receiving treatment	455
Number of these patients under treatment December 31, 1918	21

##### Distribution of treatments according to counties:

Abbeville, 7; Aiken, 27; Anderson, 22; Bamberg, 11; Barnwell, 18; Beaufort, 11; Berkeley, 1; Calhoun, 3; Charleston, 7; Cherokee, 0; Chester, 1; Chesterfield, 13; Clarendon, 7; Colleton, 10; Darlington, 15; Dillon, 10; Dorchester, 12; Edgefield, 5; Fairfield, 0; Florence, 35; Georgetown, 5; Greenville, 21; Greenwood, 5; Hampton, 4; Horry, 1; Jasper, 1; Kershaw, 6; Lancaster, 1; Laurens, 4; Lee, 14; Lexington, 19; Marion, 0; Marlborough, 30; Newberry, 6; Oconee, 9; Orangeburg, 27; Pickens, 0; Richland, 13; Saluda, 10; Spartanburg, 18; Sumter, 12; Union, 0; Williamsburg, 29; York, 3.

#### WHERE TREATED.

Treated at home	431
Treated at Laboratory	24

455

## SUMMARY OF LABORATORY WORK FOR THE YEAR 1918.

Kind of Specimen for Examination.	Positive.	Negative.	Doubtful.	Total.
Sputa for <i>M. tuberculosis</i> .....	179	776	...	955
Hookworm ova .....	66	202	...	268
Rabies .....	167	100	20	287
Gonococcus .....	20	51	...	71
<i>B. diphtheria</i> .....	66	210	...	276
<i>B. coli</i> in water .....	108	96	...	204
<i>Plasmodium malaria</i> .....	9	343	...	352
T. B. in discharges other than sputa ..	...	25	...	25
Blood cultures .....	1	1	...	2
<i>B. influenza</i> .....	1	...	...	1
<i>Pneumococcus</i> .....	5	...	...	5
Miscellaneous Pathogenic Organisms—				
<i>Meningococcus</i> .....	6	16	...	22
Miscellaneous Intestinal Parasites Other Than Hookworm—				
<i>Amebae</i> .....	3	5	...	8
<i>Ascaris L.</i> .....	1	...	...	1
<i>Tenia Nana</i> .....	2	...	...	2
Miscellaneous Specimens—				
Culture from prostate .....	1	1	...	2
Pleuritic fluid .....	...	1	...	1
Cyst fluid from Thyroid .....	...	1	...	1
Widal Test—				
<i>B. typhosus</i> .....	914	1,632	127	2,673
<i>B. paratyphoid</i> .....	162	2,492	19	2,673
Total .....	1,711	5,952	166	7,829

## TYPHOID VACCINE.

Number of ampules sent out from Jan. 1st, until Dec. 1st, 1918.....34,608

REPORT OF COMMITTEE ON SANITARY INSPECTION  
OF STATE SCHOOLS AND COLLEGES.

Committee: E. A. Hines, M. D., Chairman; W. J. Burdell, M. D., D. B. Frontis, M. D.

*Sanitary Inspection of the Medical College of the State of South Carolina, Charleston, S. C.*

The Medical College of the State of South Carolina, Charleston, was inspected November 25, 1918, and found to be in a satisfactory condition. The sanitation of the dissecting room deserves special commendation. This department is under the supervision of Dr. F. R. Phillips. We would suggest that during the coming year the college authorities make a greater effort to beautify the grounds about the college building. While this recommendation is not strictly speaking a sanitary measure, it is indirectly so. I addressed the senior class on the subject of Child Welfare Work, urging them to aggressive leadership in this important phase of public health activities:

E. A. HINES, M. D.



*Sanitary Inspection of the South Carolina Military Academy.*  
(The Citadel.)

The inspection of the South Carolina Military Academy, in Charleston, on November 25, 1918, disclosed some very encouraging improvements over last year.

The most notable being the installation of modern concrete and tiled bathing and toilet facilities on each floor of the Academy.

This need has long been apparent to even the casual visitor.

Amusement halls are being fitted up which when completed will add much to the comfort and well-being of the cadet corps.

The influenza epidemic was handled in a creditable manner with the death of only one cadet—the only death in ten years.

The number of cadets has more than doubled, there being 330 enrolled at the time of our visit.

There were no cases of illness.

E. A. HINES, M. D.

*Sanitary Inspection of the South Carolina Agricultural and Mechanical College, Orangeburg, S. C.*

The South Carolina Agricultural and Mechanical College was inspected November 26, 1918. A wonderful transformation has occurred at this well known institution for the colored race within two or three years.

Practically the entire plant is being rebuilt along modern architectural lines. At present only about half the number of students are enrolled as in normal times, there being 350. The college was under the control of the War Department and the sanitation in general is very good. A modern infirmary is badly needed. There is no provision at all now except to improvise one or more dormitory rooms. Reports indicated that the influenza epidemic had been very successfully managed. There were no cases of illness November 26th.

E. A. HINES, M. D.

*Sanitary Inspection of Winthrop Normal and Industrial College, Rock Hill, S. C.*

I inspected Winthrop Normal and Industrial College November 27th, 1918. As usual the institution is well managed from a sanitary standpoint. The most pressing claim on the college authorities was the epidemic of influenza. There were twenty-nine cases

in the infirmary on November 27th. There had been up to this time some 150 or more. A careful examination of the charts showed the cases to be very light, the average case keeping the pupil from her duties about three days.

The treatment of the disease was commendable. Hydrotherapy was resorted to to reduce high fever and rest, fresh air and careful nursing depended upon rather than much medication. Dr. Eleanor B. Saunders is at present the resident physician. Dr. Saunders has had wide experience as an institution physician and thus is fully equipped to render good service to the college. I addressed the students on the subject of: "The Duty of the College-bred Woman to Further the Cause of Public Health in Her Community."

The great need of the College is a sanitary dairy and cow barn. Both are absolutely inadequate and do not meet the requirements of a modern sanitary plant.

E. A. HINES, M. D.

*Sanitary Inspection of Clemson College, Clemson College, S. C.*

Clemson College was inspected December 9, 1918. The modern water supply system urged by our committee for nearly ten years is now in course of construction to be completed January 1st. As this is a matter of great importance, it will be described in detail.

The water comes from near the source of Hunnicut Creek and flows through a 10-inch terra cotta pipe about three feet underground 3,600 feet to settling basin 36 feet by 36 feet deep; thence to two gravity filters, each 9 by 10 feet and 8 feet deep. From the filters it flows to filtered water basin, 60 by 120 feet. The settling basin filter and filtered water basin are constructed of concrete. The piping and filter proper was purchased from the International Filter Company. The cost of plant complete will approximate \$8,000. Capacity of filters 350 gallons per minute. The supply will never run at minimum flow less than 430,000 gallons per day. The present consumption is about 150,000 gallons per day.

With the cooperation of the War Department, the sanitation, generally, of the College is good.

At the present time measles and mumps constitute the only sickness prevalent. The recent influenza epidemic emphasizes more strongly than ever the necessity for an up to date infirmary.

E. A. HINES, M. D.



## SANITARY INSPECTION UNIVERSITY OF SOUTH CAROLINA.

The University was inspected December 19th, 1918, and the investigation was limited chiefly to the improvement in De-Saussure College, which had been completed the past year. This building has been entirely renovated and brought up to date from a sanitary standpoint of view. A modern system of lavatories and connection of the building with the central heating plant leaves little to be desired. The ventilation of the rooms is satisfactory, and the number of students per room in accordance with modern ideas, as to cubic feet of air space per person. The War Department being largely in control of the health and sanitation of the University, we did not feel the necessity of a rigid inspection.

The great improvement in DeSaussure College, however, makes it obvious that to place the University in the forefront of progress along sanitary lines, it is urgent that the Legislature appropriate sufficient funds to modernize the remaining dormitories and class rooms in a similar manner.

Respectfully submitted,

E. A. HINES, M. D.,  
Chairman.

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### *Report of Committee on Sanitary Inspection of State Penal and Charitable Institutions.*

Committee: C. C. Gambrell, M. D., Chairman; Wm. Egleston, M. D., W. M. Lester, M. D.

The Reformatory for negro boys situated in Lexington County was visited on December 4th. The Legislature failed to make any appropriation for this Institution last year, and we find many charges that we would suggest to be made. In the first place, they are over-crowded, and need more building room. There are 158 boys in two rooms. The heating appliances for these rooms consist of four open fire-places which smoke dreadfully, and which are also a menace to the building. The plastering needs repairing, the building needs a new roof, and the plumbing is in bad shape. The kitchen and mess hall is on the first floor of this building, and the arrangement is very bad, as it is impossible to keep this kitchen and mess hall as clean as it should be.

Practically all of the inmates had influenza this past fall, and there were three deaths. I was there during the dinner hour, and

the food apparently seems to be very good. The dairy should be arranged so that the milk could be screened. We would suggest that a new mess hall and kitchen be built, and that the present room now used for same be utilized for quarters for these boys. The boiler room is all right, and seems to furnish sufficient steam, which if properly used would heat the sleeping quarters of these boys, and also the new mess hall and kitchen. There is an old wooden building nearby, which if fixed up could be utilized for a school. The site for the new building for white girls is two miles beyond the colored boys' building. This was also visited. We found some brick and cement that had been hauled there, and some excavation going on for cellars.

WM. LESTER, M. D.

WM. EGLESTON, M. D.

### *State Penitentiary.*

The Penitentiary was visited December 5th. There are a few recommendations that we would like to make for the Penitentiary. The floors of some of the corridors need repairing. The chair factory is in fairly good condition. There are two patients in the tuberculosis hospital, who seem to be getting along very well. The walls of this hospital are in very bad shape, but work already started for repairing them. In the general hospital everything was found clean and neat as could be expected, but they certainly need sterilizers for hot and cold water, because there are many prisoners who need operations, and are deprived of these operations on account of inadequate provision for surgical work in the operating room. We would also suggest a dentist for the prisoners.

Your committee would again respectfully call your attention to the condition of the women's building. In the first place, it is a fire trap, and at our request it has been inspected by the Chief of the Fire Department of Columbia, who condemns it as a fire trap. Should a fire break out on the lower floor, there would hardly be a chance for these women to escape. There is also no provision made for hospital care of these women prisoners. We would urge the necessity of erecting a new building for the women prisoners, and also making adequate provision for hospital treatment for those in need of it.



*Confederate Soldiers' Home.*

We found everything at this Institution in as good condition as could be expected under the circumstances. However, there are a few suggestions that we would like to make. There are several old men who are absolutely helpless, and they are very much in need of an orderly to look after them. We would suggest two, one for the day and one for the night. There is a white female nurse in charge of the hospital that gives them all the care that she can. An extension to the hospital is now being built, which when completed will give the hospital a capacity of 16 beds.

The sewerage system has been changed to a system of septic tanks put in recently which seem to be very satisfactory.

*State Hospital for Insane.*

The State Hospital for Insane was visited on December 6th. The transformation which has taken place in those wards which have been remodeled is most striking. The work is still going on in these wards. Those completed meet all the requirements of modern sanitation, and the method of ventilation and heating is most excellent. In the improvements that are taking place every care is being observed in meeting all the requirements against fire. The tuberculosis pavilion, which has been completed within the last few months, meets all the requirements for the proper care of those unfortunate patients.

The dairy is one to be proud of. Your committee would most earnestly urge that the Legislature continue to provide means whereby the remodeling of the wards in this Institution be continued until all of them come up to the highest standard which is now evident in those wards that have been completed.

WM. LESTER, M. D.

WM. EGLESTON, M. D.

## STATE INDUSTRIAL SCHOOL.

December 22, 1918.

I have inspected this day the State Industrial School at Florence and find the following conditions:

The health of the inmates is excellent. There has been but one death during the year, and this from pneumonia following influenza. There were over one hundred cases of influenza, handled

most successfully by the superintendent and his assistants. The food is good and improving from year to year.

The new building completed during the year is of the best type, very roomy and convenient, excellently adapted for the work done at the institution.

The new dining room and kitchen is under construction and will fill a very urgent need.

The new barn and dairy building completed during the year has also filled a very urgent need and is a most excellent and sanitary structure.

The epidemic of influenza strikingly illustrated the need for a modern hospital at this institution and this need is warmly endorsed and strongly urged upon the Legislature. The well and strong can at a pinch make use of very poor accommodations. The sick ought to have the very best accommodations and care that can be provided.

A central heating plant while coming probably more under the financial aspect of this institution, than the sanitary, yet has its most important sanitary and health side. Giving as it will a uniform heating to all the units at this institution it will contribute much towards the general well being and healthfulness of all who are there.

(Signed) W. EGGLESTON, M. D.

DEPARTMENT OF VENEREAL DISEASE CONTROL.  
C. V. AKIN, M. D., DIRECTOR, P. A. SURGEON,  
PUBLIC HEALTH SERVICE.

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The history of the organized effort for the control of venereal diseases dates from April 15, 1918. The Executive Committee of the South Carolina State Board of Health in the course of a regular meeting at Aiken, South Carolina, adopted certain regulations directed at preventing the spread of Venereal Diseases and declared Syphilis, Gonorrhoea and Chancroidal infections to be dangerous to the public health and as such to be reported as are other communicable diseases.

The United States Public Health Service, in cooperation with the American Red Cross, had already organized venereal disease clinics in Columbia, Greenville and Spartanburg as a part of the extra-cantonment zone sanitary units operating in these cities to safeguard the soldiers in training at Camps Jackson, Sevier and



Wadsworth. These clinics afforded free examination and treatment to all venereally infected persons within the respective zones, but the radius of their influence was necessarily limited and the majority of the State's population was not reached.

Early in the campaign the fact developed that the control of venereal diseases was a problem which could not be successfully handled by intensive work in limited areas. In order to combat these infections on a comprehensive scale a division of venereal diseases was created in the Bureau of Public Health Service and an effort was made to secure the cooperation of the various Boards of Health.

In May, 1918, the United States Congress approved the Chamberlain-Kahn bill, under the provisions of which the sum of one million dollars was appropriated to be divided among the respective States in proportion to the population of the States at the 1910 census. South Carolina's allotment amounted to \$16,476.71. Under the terms of the bill the State was not required to assist financially during the first year subsequent to the passage of the Act, but certain requirements were laid down by the Board, charged with the disbursements of this money, which had to be met by the State Board of Health before the allotment became available.

Realizing the great importance of the measures to be undertaken and the pressing need for organized control, the Secretary of the South Carolina State Board of Health made application to the Bureau of the Public Health Service for a part in the nation-wide campaign.

On July 19, 1918, a commissioned officer of the Public Health Service was detailed to the State of South Carolina, charged with the development of a department, or bureau, of Venereal Disease control.

The requirements of the Interdepartmental Social Hygiene Board were carried out with all possible dispatch and in August, 1918, it became certain that South Carolina would secure her part of the Federal fund. Up until this time the running expenses of the State Department of Venereal Disease Control had been met from the contingent fund of the South Carolina State Board of Health.

The campaign for the control of Venereal Diseases was based upon four principal lines of endeavor:

1. The reporting of Venereal Diseases.

2. The operation of clinics, where persons infected with Venereal Disease might be examined and afforded proper treatment. These clinics serve also as centers for the dissemination of knowledge relating to the public health aspect of Venereal Diseases.

3. Repressive measures. This division has to do with the enforcement of the regulations for preventing the spread of Venereal Diseases and the prosecution of persons who violate the requirements laid down by the South Carolina State Board of Health.

#### 4. Educational Campaign.

Second only to the actual treatment of venereally infected persons, education of the people is the most essential adjunct of Venereal Disease control. In order to successfully combat Syphilis and Gonorrhoea, it is necessary first of all to change the attitude of the average individual toward these diseases; supplementing false modesty and ignorance with accurate knowledge concerning the prevalence and the terrible dangers of improperly treated infections. Venereal Diseases will not cease to be a menace in this and all other States in the Union until the people demand protection.

Our campaign of publicity has embraced the distribution of suitable educational placards and pamphlets, the exhibition of moving pictures graphically portraying the subjects of sex and the harmful effects of venereal infections, and lectures by persons with a thorough knowledge of both the medical and social aspects of these diseases.

At this time there are in South Carolina five major clinics and numerous subordinate clinics, where between two and three hundred persons are daily treated for Syphilis and Gonorrhoea. The financial status of ninety-five percent. of the people attending these clinics is such that thorough treatment could be obtained in no other way. Because of the assistance given by the Federal Government, Salvarsan, the most potent of all anti-syphilitic remedies, is afforded to all persons requiring this medication; the cost for the entire treatment being less than the usual charge for one dose. Persons suffering from Gonorrhoea and Syphilis are urged to remain under the care of these clinics until every trace of the disease from which they suffer has been eradicated. The immense economic value of these clinics can hardly be estimated, but the actual saving in life and physical disability is enormous. A cure in one case of Syphilis results in obviating an unknown number of direct infections and positively prevents the



transmission of the infection through hereditary channels. A venereal disease campaign such as has been instituted in South Carolina will, within ten years, perceptibly lower the annual death rate for the State, and in twenty years will markedly decrease the number of persons entering State institutions designed to care for the insane and mentally defective.

The grave manifestations of Gonorrhoeal infection, such as blindness, disability from rheumatism, and serious abdominal infections in women necessitating major operations, are preventable, but only when the condition is promptly diagnosed and proper treatment immediately instituted. Without such clinics as the Department of Venereal Disease Control has organized, and will continue to bring into being, the majority of cases of venereal infection in this State could not hope to receive this protection.

The General Assembly of South Carolina has been asked to appropriate \$16,000 for the continuation of the work made possible by the fund provided by the Chamberlain-Kahn bill and this appropriation, if given, will be matched dollar for dollar by the U. S. Government. If ample provision is not made the clinics already functioning will go out of existence and all hope for extension of the work must be given up.

Medical examinations of men drafted into military service from South Carolina showed over eight per cent to be infected with either Syphilis or Gonorrhoea. This is a startling index of the prevalence of these diseases. There could be no more illuminating example of the pressing need for careful, comprehensive control, and money spent for this purpose will not only bring large returns in health, but will result directly in an immense economic saving to the tax payers of South Carolina.

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## REPORT OF BUREAU OF VITAL STATISTICS.

Columbia, S. C., December 19, 1918.

Dr. J. Adams Hayne, Secretary State Board of Health, Columbia, S. C.

My Dear Doctor: My report for the ten months ending October 31, 1918 is disappointing, inasmuch as I hoped to make a better showing in birth returns. There has been only an increase of 4-10 per thousand, which is absurd on the face of it.

The epidemic interfered in a measure for the month of October, with the doctors reporting promptly, but the real reason is their indifference to the law.

I am delighted to know that an attorney will be available next year for prosecuting delinquents. I expect to have several cases for him to start on in January.

The deaths for ten months are greater in number than for the entire year 1917. This is, of course, due to the epidemic.

You will note that in several cities, notwithstanding the epidemic, the death rate shows no increase. I believe I am getting all the death returns from these cities, therefore the work of the local health boards must be bearing fruit.

As you know the cost of living has increased enormously, and I have found it hard to get and keep efficient clerks at pre-war salaries, and request that you make an effort to obtain a sufficient increase in our appropriation to allow the salaries of the young ladies to be raised.

Very truly yours,  
C. W. MILLER,  
Chief Clerk.

TOTAL NUMBER OF BIRTHS AND DEATHS IN SOUTH CAROLINA FROM  
JANUARY 1ST, TO OCTOBER 31, 1917.

Counties.	Deaths.	Births.	S. Births.
Abbeville .....	330	662	43
Aiken .....	359	666	48
Anderson .....	789	1,685	93
Bamberg .....	163	389	27
Barnwell .....	236	505	58
Beaufort .....	338	377	54
Berkeley .....	319	511	40
Calhoun .....	302	475	54
Charleston .....	1,645	1,647	237
Cherokee .....	324	706	35
Chester .....	383	611	38
Chesterfield .....	277	819	39
Clarendon .....	495	757	47
Colleton .....	291	639	58
Darlington .....	654	1,026	76
Dillon .....	259	519	33
Dorchester .....	197	306	35
Edgefield .....	208	410	35
Fairfield .....	224	574	46
Florence .....	676	1,174	67
Georgetown .....	332	443	39
Greenville .....	930	1,635	110
Greenwood .....	391	694	48
Hampton .....	270	507	36
Horry .....	316	958	55
Jasper .....	95	189	4
Kershaw .....	242	562	16
Lancaster .....	303	694	37
Laurens .....	481	954	41
Lee .....	339	624	40
Lexington .....	292	720	27
Marion .....	281	582	34
Marlboro .....	394	738	63
Newberry .....	381	693	35
Oconee .....	357	765	28
Orangeburg .....	803	1,613	120
Pickens .....	255	827	32
Richland .....	1,279	1,246	116
Saluda .....	119	390	13
Spartanburg .....	1,131	2,018	134
Sumter .....	723	1,096	101
Union .....	276	608	31
Williamsburg .....	434	969	71
York .....	557	963	53
McCormick .....	114	356	20
Total .....	19,672	35,401	2,490



**TOTAL NUMBER OF BIRTHS AND DEATHS IN SOUTH CAROLINA FROM  
JANUARY TO OCTOBER 31, 1918.**

Counties.	Deaths.	Births.	S. Births.
Abbeville .....	302	664	39
Aiken .....	462	676	50
Anderson .....	758	1,720	89
Bamberg .....	260	473	34
Barnwell .....	301	575	61
Beaufort .....	452	448	56
Berkeley .....	432	633	34
Calhoun .....	327	519	55
Charleston .....	2,359	1,674	222
Cherokee .....	291	684	28
Chester .....	313	553	32
Chesterfield .....	284	839	30
Clarendon .....	639	887	53
Colleton .....	234	557	48
Darlington .....	595	937	72
Dillon .....	200	420	18
Dorchester .....	184	279	16
Edgefield .....	182	508	29
Fairfield .....	270	580	25
Florence .....	846	1,087	98
Georgetown .....	430	488	37
Greenville .....	1,565	1,883	113
Greenwood .....	459	782	59
Hampton .....	324	532	33
Horry .....	479	884	48
Jasper .....	122	178	10
Kershaw .....	283	525	12
Lancaster .....	404	651	34
Laurens .....	521	971	55
Lee .....	507	605	37
Lexington .....	386	744	21
Marion .....	330	483	28
Marlboro .....	661	943	78
Newberry .....	505	780	46
Oconee .....	352	768	27
Orangeburg .....	943	1,670	132
Pickens .....	289	798	38
Richland .....	2,411	1,398	126
Saluda .....	157	379	17
Spartanburg .....	1,234	2,003	111
Sumter .....	757	1,023	96
Union .....	274	655	30
Williamsburg .....	631	1,018	67
York .....	651	1,046	63
McCormick .....	142	294	8
	24,508	36,209	2,415

**Yearly Rate Based on Deaths for Ten Months:**

Civilian deaths .....	23,273	Rate 16.9
Deaths at camps .....	1,235	" 12.2
Births .....	36,209	" 26.4

**DEATHS IN SOUTH CAROLINA, ACCORDING TO RACE AND AGE, FOR  
TEN MONTHS, ENDING OCTOBER 31, 1918.**

Age.	White—Male.		Black—Male.	
	1917.	1918.	1917.	1918.
Under 1 year .....	899	904	1,602	1,799
1 to 5 years .....	505	535	711	1,052
5 to 10 years .....	109	116	151	300
10 to 20 years .....	170	312	371	676
20 to 30 years .....	231	1,141	576	1,097
30 to 40 years .....	189	455	508	653
40 to 50 years .....	239	356	430	521
50 to 60 years .....	321	329	458	400
60 to 70 years .....	456	468	411	443
70 to 80 years .....	385	400	337	369
Over 80 years .....	147	151	239	262
Unkown .....	17	18	73	48
Total .....	3,668	5,185	5,867	7,620

Age.	White—Female.		Black—Female.	
	1917.	1918.	1917.	1918.
Under 1 year.....	680	660	1,339	1,460
1 to 5 years.....	454	508	721	1,002
5 to 10 years.....	83	116	188	284
10 to 20 years.....	154	236	543	749
20 to 30 years.....	256	486	897	1,209
30 to 40 years.....	310	423	666	860
40 to 50 years.....	287	301	511	606
50 to 60 years.....	257	295	419	425
60 to 70 years.....	428	389	366	400
70 to 80 years.....	417	434	328	266
Over 80 years.....	252	249	275	296
Unknown .....	10	14	30	31
	3,588	4,111	6,283	7,588

Indians 4.

SUPPLEMENTAL REPORT OF DEATHS, ACCORDING TO AGE FOR  
NOVEMBER AND DECEMBER, 1917.

	White Male.	Black Male.	White Female.	Black Female.
Under 1 year.....	138	255	102	200
1 to 5 years.....	62	110	44	105
5 to 10 years.....	15	28	22	40
10 to 20 years.....	56	74	32	77
20 to 30 years.....	260	121	51	145
30 to 40 years.....	57	95	48	124
40 to 50 years.....	58	83	55	96
50 to 60 years.....	71	77	59	82
60 to 70 years.....	119	98	90	75
70 to 80 years.....	71	74	96	76
Over 80 years.....	43	66	67	60
Unknown .....	9	12	...	5
Total .....	959	1,093	666	1,085

BIRTHS IN SOUTH CAROLINA, ACCORDING TO RACE AND SEX, FOR  
NINE MONTHS, ENDING SEPTEMBER 30, 1918.

White.		Black	
Male .....	7,611	Male.....	9,125
Female .....	7,182	Female.....	8,402
	14,793		17,527

Unknown, 123.

Indians, 16.

SUPPLEMENTAL REPORT BIRTHS ACCORDING TO SEX AND COLOR  
FOR OCTOBER, NOVEMBER AND DECEMBER, 1917.

Male .....	2,644	Male.....	2,711
Female .....	2,490	Female.....	2,532
Total .....	5,134		5,243

Male Indian, 5.

Unknown, 35.



**TOTAL NUMBER OF DEATHS FROM THE FOLLOWING DISEASES FROM  
JANUARY TO OCTOBER 31, 1917 AND 1918.**

Diseases.	1917.	Rate Per 100,000	1918.	Rate Per 100,000
Tuberculosis, pulmonalis.....	1,356	100.1	1,356	99.
Tuberculosis, other forms.....	124	9.1	120	8.8
Pellagra .....	544	40.2	558	40.7
Diphtheria .....	47	3.5	66	4.8
Scarlet fever.....	6	.4	3	.2
Measles .....	146	10.8	76	5.5
Typhoid fever.....	396	29.2	421	30.7
Smallpox .....	...	...	...	...
Cancer and malignant tumors....	430	31.7	375	27.4
Malaria .....	259	19.1	262	19.1
Meningitis, cerebro-spinal.....	33	2.4	191	12.9
Whooping cough.....	76	5.6	255	18.6
Pneumonia .....	1,064	78.5	2,956	201.1
Pneumonia, broncho.....	388	28.6	1,582	107.6
Pneumonia, hypostatic.....	11	.8	10	.7
Pleurisy .....	15	1.1	26	1.9
Diseases of circulation.....	2,140	158.	2,227	162.6
Diseases of kidneys.....	1,425	105.2	1,320	96.4
Syphilis .....	51	3.8	59	4.3
Syphilis, congenital.....	43	3.2	54	3.8
Tetanus .....	25	1.8	20	1.5
Tetanus, neonatorum.....	21	1.4	19	1.3
Dysentery .....	433	32.	331	25.1
Dysentery, amoebic.....	22	1.6	13	.9
Scurvy .....	1	.07	1	.07
Intestinal diseases.....	1,375	101.5	1,149	83.9
Erysipilis .....	24	1.6	28	2.2
Homicide .....	157	11.6	145	10.5
Suicide .....	33	2.4	53	3.7
R. R. Accidents.....	84	5.6	74	5.
General Accidents.....	216	15.9	250	18.2
Lightning .....	38	2.8	9	.7
Legal electrocution.....	2	.13	...	...
Polyomyelitis .....	8	.5	8	.5
Influenza and la grippe.....	...	...	899	61.2
Auto Accidents.....	...	...	39	2.8

**SUPPLEMENTARY REPORT ON FOLLOWING DISEASES FOR NOVEMBER AND DECEMBER, 1917.**

	November.	December.	Total
Tuberculosis, pulmonalis.....	117	150	267
Tuberculosis, other forms.....	13	12	25
Pellagra .....	35	43	78
Diphtheria .....	12	11	23
Scarlet fever.....	1	1	2
Measles .....	12	25	37
Typhoid fever.....	30	18	48
Smallpox .....	...	...	...
Cancer and malignant tumors.....	43	46	89
Malaria .....	15	8	23
Meningitis, cerebro-spinal.....	7	46	53
Whooping cough.....	5	3	8
Pneumonia .....	112	167	279
Pneumonia, broncho.....	97	108	205
Pneumonia, hypostatic.....	...	1	1
Pleurisy .....	2	1	3
Diseases of circulation.....	211	259	470
Diseases of kidneys.....	108	139	247
Syphilis .....	5	3	8
Syphilis, congenital.....	5	7	12
Tetanus .....	1	2	3
Tetanus, neonatorum.....	3	...	3
Dysentery .....	7	10	17
Dysentery, amoebic.....	2	4	6
Scurvy .....	...	...	...
Intestinal diseases.....	52	55	107
Erysipilis .....	4	5	9
Homicide .....	8	13	21
Suicide .....	4	6	10
R. R. Accidents.....	6	8	14
General Accidents.....	32	33	65
Lightning .....	...	...	...
Legal electrocutions.....	...	...	...
Polyomyelitis .....	1	2	3
Auto Accidents.....	4	3	7

DEATHS FROM THE FOLLOWING DISEASES FROM JANUARY 1ST, TO  
SEPTEMBER 30, 1918, INCLUSIVE.

Diphtheria .....	46
Malaria .....	209
Measles .....	75
Meningitis, cerebro-spinal.....	171
Pellagra .....	497
Poliomyelitis .....	7
Scarlet fever.....	3
Smallpox .....	0
Tuberculosis .....	1,326
Typhoid .....	365
Whooping cough.....	224

COMPARATIVE STATEMENT OF DEATHS IN THE FOLLOWING CITIES  
FROM JANUARY 1ST, TO OCTOBER 31, 1917 AND 1918.

	1917.	1918.
Abbeville .....	74	81
Aiken .....	63	99
Anderson .....	244	243
Bennettsville .....	42	67
Camden .....	69	78
Charleston .....	1,291	1,652
Cheraw .....	40	45
Chester (Registrar dead—record incomplete).....	97	75
Clinton .....	64	62
Columbia .....	1,044	1,444
Darlington .....	70	75
Easley .....	34	76
Florence .....	221	310
Gaffney .....	82	59
Georgetown .....	107	121
Greenville .....	287	382
Greenwood .....	115	134
Laurens .....	87	62
Marion (Complete only to September) .....	51	50
Newberry .....	74	105
Orangeburg .....	102	112
Rock Hill.....	131	155
Spartanburg .....	313	383
Sumter .....	176	249
Union .....	65	74
	4,843	6,199

DEATHS FROM PARTURITION AND PREGNANCY FROM JANUARY 1,  
TO OCTOBER 31, 1918.

Attended by physicians.....	312
Unattended by physicians.....	43
	355

C. W. MILLER,  
Chief Clerk,  
Bureau Vital Statistics.

## REPORT OF SOUTH CAROLINA SANATORIUM.

December 20, 1918.

*To the Chairman and Members of the Executive Committee,  
South Carolina State Board of Health.*

Gentlemen: Since the last annual report of December 10, 1917, 147 patients have received treatment at the Sanatorium. There were 79 men and 66 women. Eleven men and three women remained ten days or less, 16 men and five women were present not more than 30 days, while 27 men and 34 women received treat-



ment 60 days or longer. There are now 25 men and 24 women at the Sanatorium.

The condition of the men on admission was as follows: incipient 1; moderately advanced, 38; far advanced, 39; non-tuberculous, 1; on discharge, apparently arrested, 2; quiescent, 2; improved, 20; not improved, 26, and four died.

The condition of the women on admission was as follows: incipient 1; moderately advanced, 28; far advanced, 37; on discharge, arrested, 2; apparently arrested, 2; improved, 14; not improved, 14; and 10 died.

The new buildings were occupied in April, increasing the capacity of the institution from 32 to 56 patients. The infirmary which accommodates 24 patients has been full since it was opened, and usually there are several on the waiting list.

The dining room will seat 100 people, and it would seem wise to enlarge the institution, at least to that capacity at an early date. We now have an ample supply of water from two deep wells which furnish about 15 gallons each per minute. The Delco lighting plant has been satisfactory. I would suggest that a duplicate be installed so as to have lights should there be a break down in one engine.

The septic tank has been somewhat objectionable on account of the proximity to the infirmary. As our fire risk is considerable, we should have a chemical engine mounted on wheels, as the hand extinguishers are suited only for small fires.

A temporary cow barn was built during the summer. It is hoped that a modern dairy barn will be provided soon. The institution has supplied its own milk. There are now twelve cows in the herd, four Holsteins having been added this year. The entire herd has been tuberculin tested. There were no positive reactions.

The hogs have been kept at practically no expense, being fed the kitchen refuse. One hundred and fifteen pigs have been sold, yielding \$683.00. There are now fifty pigs five weeks old, and 22 full grown hogs. These pigs will sell for \$6.00 each. We supplied all pork used last winter, and will do as well this winter.

On account of the scarcity of labor and the drought, the garden was practically a failure. If possible the entire property should be so fenced as to have several grazing fields for the cows. By so doing the land will be improved, and brought to a high state of cultivation, and then other than cover crops can be raised profitably.

A beginning has been made in the development of a training school for nurses. Four young ladies—former patients of this and other institutions—are now enrolled—thus practically demonstrating that one with tuberculosis may recover and earn a living.

Since my last report a total of \$13,466.15 has been collected. Of this amount \$12,386.50 was for board; \$683.00 for pigs, and the balance for miscellaneous articles. Supplies have cost \$10,483.70; there was refunded \$110.50; and \$3,278.43 delivered to Dr. Hayne. A contingent fund of \$1,000.00 was placed at my disposal. Cash on hand now totals \$593.52.

There is need for improvement of the grounds adjacent to the buildings, and the laying of cement walks from one building to another.

I wish to acknowledge my appreciation of the support and cooperation of your board, and of the State Health Officer. I take this opportunity of expressing my appreciation of the cooperation given by my assistant, Dr. Claytor, the nurses, employees, and patients of the Sanatorium, as our results could not have been secured otherwise.

It is suggested that the Legislature be asked to provide four or more "trusty" convicts to do this work. I believe that special enactment will be necessary to secure this labor.

Respectfully submitted,  
ERNEST COOPER, Supt.

#### APPROPRIATIONS GIVEN BY LEGISLATURE 1918. REPORT OF FIELD SECRETARY, SOUTH CAROLINA SANATORIUM.

Infirmary .....	\$20,000
Completion of equipment new buildings.....	2,000
Silo barn and refrigerating plant.....	5,000
Maintenance .....	15,000
Appropriation for the War Fund to be expended by Cooperating Committee Tuberculosis War Problem .....	5,000
Educational pamphlets, to be issued by State Board of Health to Public Schools.....	1,000

The pamphlets issued by the State Board of Health are now ready for distribution and are being sent out with the recommendation and endorsement of the Superintendent of Education.



*Cooperating Committee on the Tuberculosis War Problem.*

The above appropriation asked of the General Assembly of 1918 was given as requested. Five thousand dollars of this money was designated as the fund for the Cooperating Committee on the Tuberculosis War Problem. The items were voted upon by members of the committee, the majority report of proposed tuberculosis work authorizing program.

The object of this organization is to promote cooperation between the counties and the State Board of Health. There are one hundred and fifty members in the State. Among these members we have County Superintendents of Education, Mayors of towns, County Supervisors and prominent members of the Federated Clubs of the State. These members are requested to cooperate with the local Red Cross Relief Committees and to assist State tuberculosis nurse in making her survey as complete as possible. They will also interview the members of their county delegations and present to them the proposed legislation for the coming year.

*Employment of Colored Health Worker.*

This idea of cooperation extends to the negro, our object being to encourage the most intelligent and progressive among them to take the lead in providing for the needs of the tuberculous negroes of the State. To this end a competent health worker (colored) was employed to organize Cooperating Committees among the negroes in the counties of the State, for the purpose of stimulating an interest in the establishment of the tuberculosis camps. The efforts of Mrs. Rebecca H. Walton have more than justified this extension of our tuberculosis work, looking towards the care and treatment of the tubercular negro. With the exception of the colored ward in the Sumter County Camp, no provision whatsoever has been made up to the present time to meet this condition which unfortunately is very prevalent among the negroes.

We have always understood that some steps had to be taken in order that the whole State might be protected. Our indifference to this branch of the work, and our disregard for the consequences have been a positive handicap even among our work among the white people in the past.

Twenty-seven counties have been organized since March 1st, and the colored people all over the State are deeply interested in promoting the plan for district hospitals for tuberculous members of their race. As an indication of their sentiment along

these lines, I submit to you a list of sites which have been offered to the State Board of Health for this purpose.

Land offered for Sanatorium sites for negro Sanatoriums:

Five acres, Eastover, Richland county, 1917, Miss Julia Clarkson (white).

1918, ten acres near Bennettsville, Marlboro county, E. J. Sawyer, LL.D., (negro).

Land offered, 50 acres, Edgefield county, if used for district sanatorium, or ten acres for county sanatorium, R. H. Nicholson, President of Bettis Academy, Trenton, S. C.

Land offered, five acres, Berkeley county and \$500.00, Rev. D. J. Jenkins, Charleston (negro).

Five acres near Marion, Marion county, Butler General (negro).

Land near Orangeburg, number of acres not stated, and \$1,000.00, Mrs. Marion Birnie Wilkinson, President Colored Women's Federated Club, Orangeburg.

Land adjoining Caucasian Sanatorium site, Greenville.

Land offered. Sanatorium to be given by a white citizen of Greenville on condition negroes raise their amount pledged this year.

## .RELIEF WORK AMONG SOLDIERS AND REJECTED MEN.

### *Employment of State Tuberculosis Nurse.*

We have put forth a special effort to meet the needs of our men of fighting age both in and out of the army. In April I was invited to address the State Federation at their annual meeting in Aiken. At this meeting it was decided that the club women give a library to the tuberculosis ward at Camp Jackson. The response has been gratifying and I am glad to report that a library of about four hundred books has been installed in the tuberculosis ward for the use of those men, who because of their disease are cut off from the general use of books at the circulating library of the camp.

We have given temporary care at the Sanatorium to three discharged soldiers and were able also to provide for the wives of two soldiers, the latter paying for their expenses from their allotment furnished by the Government.

In May I attended a called meeting of the heads of the Tuberculosis Departments of the Southern States at Atlanta; the object



of this conference being the locating and care of rejected men in their homes and at Sanatoria. As a result of this conference, we put in a full time tuberculosis nurse who is engaged to go into the homes of all cases of tubercular rejects from draft boards and camps, and report conditions to this office. We have gotten out a blank which she uses for this purpose; these records will be kept in the office of the State Board of Health where filing system has been installed.

When institutional care is necessary for these men, we will make arrangements for them either at South Carolina Sanatorium, or in county camps in the vicinity in which they live.

The educational value of such a survey can not be estimated, and we hope to employ one or more of these nurses to give their entire time to the visiting of homes in counties where a nurse is not employed.

It will facilitate our work, in many instances, to have our application blanks investigated as it is hard sometimes to ascertain the financial condition of patient. It is our desire to assist those who are not able to pay for treatment, but our policy is to have the family bear all or part of expense, unless they are positively unable to do so. We can call upon our visiting nurse to furnish this information, and we can also keep in touch with members of the family and do follow up work when patient returns to his home.

As a war measure, only the homes of reported men are being visited, but as time goes on and our list diminishes somewhat she can go into a more general survey of tuberculosis conditions in the State. She is keeping in touch with the Red Cross Home Service Relief Committees, and she reports that they are giving her valuable aid in her work. By this coordination with the Red Cross workers, we can avoid any overlapping which might otherwise occur.

#### *Program of Year's Work.*

I hereby submit year's program for Cooperating Committee on the Tuberculosis War Problem. On account of the recent epidemic, slight changes were made in this program. These items have been voted upon by the members of the Cooperating Committee on the Tuberculosis War Problem, and have been endorsed by Dr. Jas. A. Hayne, Treasurer of the organization.

Budget of fund to be used by the Cooperating Committee on the Tuberculosis War Problem, Jas. A. Hayne, Treasurer:

Traveling expenses of the Secretary of the Cooperating Committee on the Tuberculosis War Problem: March 1st to January 1st.....		\$ 200.00
Stationery, stamps and distribution of literature.....		300.00
Visiting nurse for discharged and rejected men, salary October, November and December, \$300.00; traveling expenses, \$225.00 .....		525.00
Relief to discharged soldiers, rejected men and civilians, white and colored, March 1st to January 1st.....		1,135.00
Establishment of camp for negroes.....		1,500.00
Salary of the State health worker from March 1st to January 1st .....		500.00
Traveling expenses of State health worker from March 1st to January 1st.....		465.00
Stenographic work from March 1st to January 1st.....		225.00
Traveling expenses of assistant colored worker from October 1st to January 1st.....		150.00

*Establishment of Soup Kitchen for the Colored People.*

On account of the prevalence of the Spanish influenza, which epidemic reached its climax between the following dates, October 7th and November 14th, my work along tuberculosis lines was entirely discontinued, and I devoted my energies during that period of time towards the establishment of a soup kitchen for the colored people of Columbia. I was ably assisted in this work by two competent colored women in charge of the Phylis Wheatley Club who offered their rooms and their services for the period of the epidemic. This club is under the War Work Council of the national board of the Y. W. C. A., and War Camp Community Service and is the natural center for such an undertaking.

Too much can not be said of the faithful work done by the two women in charge of the club. They gave their entire time to the operation of the soup kitchen, and our work could not have been a success without their aid.

Rev. J. A. White, Chairman of the Executive Board of the colored Red Cross, requested that this work be undertaken by his committee, and he was put in charge of the automobile service and of the volunteer soup distributors. The equipment was furnished by the Red Cross and will be used for any emergency which may arise in future. About forty homes were visited daily, the names



being furnished by the Associated Charities. This organization was the clearing house for all city cases.

This activity is a new departure for the negro, and the work done during the epidemic is to be commended. It is to be hoped that a permanent relief committee will be organized in the colored Red Cross, and that the negroes will feel their responsibility for their own race in time of sickness and distress. The negroes maintained all the expenses of the soup kitchen and furnished automobiles for the delivery of the soup.

*Registration of Volunteer Colored Nurses During Epidemic.*

The demand for volunteer workers and nurses being so great during the period of epidemic, I undertook the registration of the colored volunteers, giving their names to the office of the United States Public Health Service influenza control measures. Some of these negro women had taken the "Home Care of the Sick" classes under the Red Cross, while others were practical nurses who had gained experience through bedside nursing in their own communities. Nine of them worked with the organization referred to, and the reports show that they did their work faithfully and well.

**REPORT ON SANATORIUM—FREE BEDS FROM COUNTIES.**

We were able to secure free beds in the following counties this year:

*County Appropriations for Tuberculosis Patients.*

Abbeville .....	\$ 365.00
Aiken .....	180.00
Charleston .....	365.00
Chesterfield .....	90.00
Clarendon .....	365.00
Colleton .....	365.00
Darlington .....	90.00
Edgefield (County Board of Commissioners) ..	90.00
Fairfield (County Board of Commissioners) ..	365.00
Florence .....	365.00
Georgetown .....	182.50
Greenwood .....	183.00
Hampton .....	182.00

Laurens .....	365.00
Newberry .....	365.00
Oconee .....	365.00
Spartanburg .....	365.00
Union .....	185.00
	<hr/>
	\$4,833.00

Four of these counties, Darlington, Hampton, Laurens and Oconee, sent no applicant during the year. The money could not be used for any other patient.

It appears that the necessity for caring for the consumptives is more clearly brought out in some parts of our State than in other sections.

We will put on an intensive campaign at once in those counties failing to take advantage of funds available for this purpose, and it is our desire that all delegations insert in their County Supply Bill an item for the care and treatment for the tuberculous.

It has been my duty to act upon all county applications for free beds. The bills being paid to Jas. A. Hayne, Treasurer.

#### *Committee on Admissions.*

In June a Committee on Admissions was appointed by the State Board of Health to act upon applications sent to this office. This committee consists of Dr. Jas. A. Hayne, Treasurer, Dr. William Lester and myself. I have acted in the capacity of Clerk and have looked into the financial condition of patients with a view toward giving from our charity fund of the Cooperating Committee when such assistance was necessary. As indicated in the budget, the sum of \$1,135.00 was given for this purpose. Very few patients have been taken entirely free. Some have contributed twenty dollars, some ten dollars and others as little as five dollars for their up-keep.

I am glad to report that no person has been denied at the Sanatorium on account of the lack of funds. It has been possible through the county fund and our charity fund to meet the needs of those who have called upon us.

Respectfully submitted,

A. I. REMBERT.



## REPORT DIRECTOR RURAL HEALTH WORK.

*To the Chairman and Members of the Executive Committee,  
South Carolina State Board of Health.*

Gentlemen: Dr. L. A. Riser, Director of Rural Sanitation, having entered active service, it becomes my duty to submit to you the annual report of the work done by this department during 1918.

The Legislature made an appropriation of \$14,500.00 for the work this year, and to this was added an equal amount from the International Health Board, and \$13,200.00 from the four counties in which the work has been carried on. The following counties, through their legislative delegations, have made appropriations: Greenwood, \$2,500.00; Orangeburg, \$3,500.00; Darlington, \$3,600.00, and Lexington, \$3,600.00. In addition to these amounts, Greenwood and Orangeburg counties raised \$900.00 and \$800.00 respectively as their quota in the Red Cross Christmas Seal sale during December, 1917.

*Personnel.*—During the first three-quarters, our force consisted of the following five units: the Executive Unit composed of the Director and Miss E. W. Grieshaber, office secretary; the Greenwood County Unit, in charge of Dr. F. M. Routh; the Orangeburg County Unit, in charge of Dr. Vance W. Brabham; the Darlington County Unit, in charge of Dr. C. H. Verner; and the Lexington County Unit, in charge of Robert H. Folk. While these five units are still in operation, the work has been greatly handicapped during the last quarter through the loss of Drs. Riser, Routh and Folk, who were granted leave of absence to enter active service in the army. At present Dr. D. D. Kinard is in charge of the Greenwood County Unit, and Dr. Karl L. Able of the Lexington County Unit.

*County Work.*—The work in the counties has been carried on much as it had been the year before, but special attention has been given to improving sanitary conditions in small towns and rural communities. The cement vault and septic tank work in Greenwood and Orangeburg counties, and the pit privy construction in Darlington county deserves special mention. Our county units cooperated with the children's bureau in their baby weighing and measuring campaign, and in addition have continued the inspection of school children. Specially good work in the weighing and measuring of children was done in Darlington by Dr. Verner,

assisted by the county nurse and a representative of the children's bureau.

*County Nurses.*—A new feature of the department during this year has been the employing of public health nurses for each of the county units. These nurses have done some excellent work, and have aided materially in accomplishing the results attained during the year. In Orangeburg a baby clinic and day nursery has been organized and is in active operation. These nurses have been active in the weighing and measuring campaign, the inspection of school children, the visiting of homes having tuberculosis, typhoid fever and other communicable diseases, and in giving instruction on the home care of the sick. The work of the nurses has proven to be of such value that we feel that it will be continued as a permanent part of the public health work.

*Influenza Epidemic.*—During the influenza epidemic that swept over our State during October and November, our entire force put aside the regular routine of work, and devoted their full time to assisting in combating the disease. Valuable service was rendered by the physicians and nurses at that time.

*Summary.*—I regret that the absence of Dr. Riser makes it impossible for me to enter into a more detailed report of the work accomplished during the year. I am very glad, however, that Dr. Riser and the other members of our force will soon be released from service in the army, and the work of the department will go on as usual.

Respectfully submitted,

VANCE W. BRABHAM, M. D.,  
Acting Director of Rural Health Work.

## REPORT OF GREENVILLE COUNTY HEALTH OFFICER.

Greenville, S. C., December 18, 1918.

*To the Secretary of the State Board of Health, Columbia, S. C.*

Sir: I have the honor to herewith hand you my annual report as health officer of Greenville county for the year 1918.

The military camp in our county has given us more much work to perform and introduced at least one contagious disease that we have not previously had to contend with, cerebro-spinal meningitis; there were 16 cases during the months December, 1917, to April, 1918, inclusive, and two cases in November, 1918.



The spread of this disease has been successfully combated by a rigid quarantine, all contacts examined, and carriers treated. In this we were materially assisted by the Red Cross.

*Influenza.*—This disease which has made its periodical appearance in this country under various names, being brought in from some European country, made its appearance in Greenville county this fall. In preventing the spread and ravages of this disease, the health officials at large seem to have met with rather an ignominious defeat and the disease has taken its toll in anxiety, suffering, financial loss and death in full measure, and retarded to no small extent the educational development of our school children. Why is this disease permitted to be brought into our country, with a quarantine station at every port? The disease has caused a great divergence of opinion among health workers, many taking the view that the fire is started and nothing can be done to stop it or control it, so let it burn itself out. If this be our view, then we must admit that our little tale of communicable diseases being preventable diseases is false.

Why quarantine for smallpox with a preventive treatment: typhoid the same, diphtheria with a pacific in treatment; having had scarlet fever gives us immunity. Measles partial immunity. So let's have it and be done with it.

I place myself on record as believing that the disease can in a great measure be controlled by a judicious quarantine, and if through such measures reduce five per cent. or even one per cent. of deaths, we will have done a wonderful amount of good.

There has been quite a reduction in the number of typhoid fever cases this year. This being due possibly to two causes: first, prophylactic treatment, and second, better sanitation.

Scarlet fever and measles likewise have been less prevalent in the past year. This in some measure is due to the people more fully understanding that it is necessary for those suffering with the disease must be more rigidly isolated from the well, there being but one case, as a rule, developing in a family.

Due to the camp having caused an increased amount of other work I have not been able to make as many medical examinations of school children as in the past.

Have made 800 examinations: of this number there were 276 suffering with chronic tonsilitis, 75 acute colds, 15 ringworm, 97 pediculosis, 30 defective eye sight, 23 defective hearing, 323 defec-

tive teeth, 75 malnutrition, 500 were successfully vaccinated against smallpox.

Have given 763 persons prophylactic treatment for typhoid fever. Vaccinated 2,162 school children against smallpox.

*Sanitation.*—I have made sanitary inspection of all the mills, of the county jail and depots, 1,172 private premises, have had 250 sanitary privies installed in the suburbs of the city of Greenville, been blocked in a great measure by the Red Cross in this work, as they had me notify the people that they would build the concrete vault type if the people would furnish the material, then after this was done they stopped all work along this line.

Was called in consultation 75 times, treated 19 cases cerebro-spinal meningitis with family physician in attendance, three deaths in this number.

The following number of contagious and infectious diseases were reported by the doctors in the county for the past year:

Diphtheria .....	23
Chickenpox .....	7
Dysentery .....	5
Malaria .....	9
Measles .....	82
Meningitis (cerebro-spinal) .....	16
Mumps .....	23
Pneumonia .....	15
Pellagra .....	4
Para-typhoid .....	2
Scarlet fever .....	10
Smallpox .....	17
Typhoid .....	60
Tuberculosis .....	2
Whooping cough .....	23

This number we know is not absolutely correct as the doctors' report is not full and complete, and in many mild cases of measles and scarlet fever, there is no doctor in attendance.

This, Mr. Secretary, is my annual report for the year beginning December 1st, 1917, and ending December 1st, 1918.

Respectfully submitted,

S. J. TAYLOR, M. D.,  
Greenville County Health Officer.



## REPORT OF CHEMIST AND BACTERIOLOGIST.

*To the Chairman and Members of the Executive Committee of the State Board of Health.*

Gentlemen: I have the honor to submit the following tabulated report of analysis of samples of water from the public water supplies of South Carolina, made under the direction of the State Board of Health, in accordance with the laws of South Carolina relating to the purity of the water supplies of towns and cities, I Code, Section 1599, and of information as to officials of local boards of health and plants, source, capacity, treatment, daily consumption and consumption per capita, discharge of sewage and disposition of garbage.

Fourteen samples of water were received from miscellaneous sources for analysis, of which three were found to be contaminated.

The following cities have noted improvements or additions to their plants during the past year:

Beaufort, contemplates installation of new pumping units.

Columbia, constructing an additional pumping plant to furnish thirteen million gallons of clear water per day, and another plant to furnish fifteen million gallons of raw water per day, and a coagulating basin to treat this additional amount of water.

Darlington, two additional wells.

Florence, new well under construction.

Georgetown, contemplates building incinerator for garbage disposal.

Greenville, new 3,000,000 gallon plant being constructed, on Enoree River, water to be filtered, chlorinated and pumped to present reservoir.

McColl, constructing another well to which electric driven pump will be connected on completion of well.

Very respectfully,

FRANCIS L. PARKER, M. D.

## RESULTS IN PARTS PER MILLION.

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrates.	Nitrogen as Nitrates.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
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## Water Supply of Abbeville, S. C.

Abbeville Water & Electric Plant. Owned by city. Superintendent, O. E. Hix. In charge of collection of samples, O. E. Hix. Chairman local Board of Health, Dr. C. H. Murray.

Source: Creek, 1 1/4 miles from city. Capacity, 250,000 gallons per day; filtered by mechanical filters. Treatment, 1/4 grain alum per gallon. Capacity of plant 500,000 per day. Average consumption, 200,000 gallons per day. Consumption per capita, 40 gallons per day. Service metered. Sixty per cent of residences using city water supply; 60 per cent of city sewered and have water closets. Sewage empties into creek. No garbage disposal plant. Garbage dumped in old fields and gullies.

March 7, 1918	7.00	0.03	0.03	0.00	0.00	87.00	Negative	Negative
June 18, 1918	7.00	0.02	0.05	0.00	0.00	89.00	Negative	Negative
October 22, 1918	8.00	0.03	0.05	0.00	0.00	118.00	Negative	Negative

## Water Supply of Alken, S. C.

City Water Works. Superintendent, H. Sudlow. In charge of collection of samples, J. L. McCarter. Chairman local Board of Health, I. W. Fowler.

Source: Collection of springs 6 1/2 miles from city. Capacity 2,000,000 gallons per day; not filtered. Capacity of plant, pumpage, 1,500,000 gallons per day. Average consumption, 350,000 gallons per day. Consumption per capita, 80 gallons per day. Service, 100 per cent, city using city water supply.

Sewerage system, 75 per cent, city sewered, 50 per cent, buildings connected with sewer and have water closets. Sand filter beds. Sewerage empties into small streams. No garbage disposal plant.

April 2, 1918	7.00	0.02	0.03	0.001	0.10	45.00	Negative	Negative
June 16, 1918	8.00	0.02	0.02	0.001	0.00	44.00	Negative	Negative
September 23, 1918	7.00	0.02	0.03	0.00	0.00	24.00	Negative	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrates.	Nitrogen as Nitrites.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
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## Water Supply of Allendale, S. C.

Commission of Public Works. Owned by town. Superintendent, J. W. Mallard. In charge of collection of samples, J. W. Mallard. Chairman of local Board of Health, Dr. J. E. Warnock.  
 Source: Well near the center of town; not filtered. Capacity, 50,000 gallons per day. Average consumption, 25,000 gallons per day. Consumption per capita, 42 gallons per day. Service metered, 60 per cent. of residences using city water supply; 60 per cent. of buildings connected with sewer and have water closets. Septic tank and sprinkling filter. Sewerage empties into Coosawhatchie River. No garbage disposal plant. Garbage dumped in open fields  $1\frac{1}{2}$  miles from city and burned.

March 11, 1918 .....	6.00	0.01	0.03	0.00	0.00	190.00	Negative	Negative
June 12, 1918 .....	6.00	0.01	0.03	0.00	0.40	126.00	Negative	Negative
September 25, 1918 .....	8.00	0.02	0.04	0.00	0.00	190.00	Negative	Negative

## Water Supply of Anderson, S. C.

Southern Public Utilities Company. Manager, H. A. Orr. In charge of samples, R. T. Long. Chairman local Board of Health, Dr. Frank Ashmore.  
 Source: Bailey's Creek, 2 miles from the city. Capacity 4,000,000 gallons per day. Filtered by mechanical filter. Treatment  $\frac{1}{2}$  grain Alum per gallon. Capacity of plant 1,300,000 gallons per day. Consumption per capita, 50 gallons per day. Service metered. Ninety-three per cent. of buildings use city water supply.

Sewerage system: 93 per cent. of city sewerred. No sewage disposal plant. Sewage empties into Rack River and Jenistee Creek. Garbage dumped at incinerator and burned.

March 11, 1918 .....	6.00	0.02	0.03	0.00	0.00	53.00	Negative	Negative
June 4, 1918 .....	6.00	0.01	0.03	0.00	0.30	87.00	Negative	Negative
September 27, 1918 .....	6.00	0.02	0.04	0.00	0.20	52.00	Negative	Negative

### Water Supply of Bamberg, S. C.

Light & Water Department of Commission of Public Works. Owned by city. Superintendent, A. L. Edwins. In charge of collection of samples, A. L. Edwins. Chairman local Board of Health, Dr. J. J. Cleckby.  
Source: Flowing well, artesian, in city; diameter, 3 inches; depth 480 feet. Capacity of plant, 75,000 gallons per day; average consumption, 60,000 gallons per day. Service metered, 40 per cent. buildings using city water supply; 60 per cent. have septic tanks.  
Sewerage system, city is not sewerred, except private tanks. No garbage disposal plant. Garbage disposal of in dump wagon.

March 23, 1918 .....	8.00	0.01	0.00	0.00	0.00	109.00	Negative
June 28, 1918 .....	7.00	0.01	0.01	0.00	0.00	94.00	Negative
November 6, 1918 .....	5.00	0.01	0.02	0.00	0.00	50.00	Negative

### Water Supply of Barnwell, S. C.

Barnwell Light & Water Works. Owned by the city. Superintendent, F. H. Miller. In charge of collection of samples, F. H. Miller. Chairman local Board of Health, Dr. J. G. Woolsey.  
Source: Two wells in city, 4½ and 6 inches in diameter, 151 feet deep. Capacity, 72,000 gallons per day. Not filtered.  
Capacity of plant, 72,000 gallons per day. Average consumption, 30,000 gallons per day. Consumption per capita, 30 gallons per day. Service 50 per cent metered. 50 per cent. buildings using city water supply. No sewerage system, 90 per cent. of buildings have water closets; 10 per cent. have septic tanks.

March 7, 1918 .....	8.00	0.01	0.03	0.00	0.00	145.00	Negative
June 7, 1918 .....	7.00	0.02	0.01	0.00	0.00	117.00	Negative
September 25, 1918 .....	10.00	0.01	0.03	0.00	0.00	117.00	Negative

### Water Supply of Batesburg, S. C.

Commission of Public Works. Owned by town. Superintendent, R. E. Hoover. In charge of collection of samples, R. E. Hoover. Chairman, local Board of Health, Dr. R. H. Timmerman.  
Source: Two wells in city. Not filtered. Capacity 36,000 gallons per day. Capacity of plant 200,000 gallons per day; average consumption 20,000 gallons per day. Consumption per capita, 2 gallons per day. Service metered. 100 per cent. buildings using city water supply; 10 per cent. septic tanks. No sewerage system. No garbage disposal plant. Garbage hauled outside city and burned.

March 20, 1918 .....	10.00	0.01	0.01	0.00	0.00	138.00	Negative
June 10, 1918 .....	10.00	0.01	0.01	0.00	0.00	115.00	Negative
November 6, 1918 .....	9.00	0.01	0.02	0.00	0.00	105.00	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Am- monia.	Nitrogen as NI- trates.	Nitrogen as NI- trates.	Total Solids.	Bacterial Indica- tions of Contam- ination.	Chemical Indica- tions of Contam- ination.
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## Water Supply of Beaufort, S. C.

Town of Beaufort, S. C., Water & Light Department. Superintendent, Public Works, H. R. Pollitzer. In charge of collection of samples, H. R. Pollitzer. Chairman local Board of Health, Dr. C. M. Guffin.  
Source: Well 12 inches in diameter and 125 feet deep, in center of city. Not filtered. Average consumption 50,000 gallons per day. Consumption per capita, 200 gallons per day. Service not metered, 30 per cent. buildings connected with city water supply. No sewerage system; 50 per cent. private sewers. Sewerage empties into Salt Water River. No sewerage disposal plant. Garbage dumped at edge of city limits and burned.

March 18, 1918 .....	40.00	0.02	0.03	0.001	0.00	295.00	Negative	Negative
June 19, 1918 .....	36.00	0.05	0.03	0.00	0.00	218.00	Negative	Negative
September 24, 1918 .....	35.00	0.04	0.03	0.00	0.30	294.00	Negative	Negative

## Water Supply of Bennettsville, S. C.

Bennettsville Electric & Water Plant. Owned by city. Manager, E. C. Morrison. In charge of collection of samples, E. C. Morrison and J. M. Easterling. Chairman local Board of Health, Dr. O. A. Matthew.  
Source: Eight wells 4½ inches in diameter, 60 feet deep, pumped. Average consumption 220,000 gallons per day. Capacity of plant 500,000 gallons per day. Consumption per capita, 60 gallons per day. Service metered, 95 per cent. Buildings in the business and residence section and 45 per cent. buildings in corporate limits using city water supply. Buildings in Sewerage system, 87 per cent. of buildings in the residence section and business section and 45 per cent. buildings in entire corporate limits connected with sewer and have water closets. Septic tank. Sewage empties into Crooked Creek, 1½ miles from city. Garbage disposal plant.

March 4, 1918 .....	16.00	0.02	0.03	0.00	0.40	67.00	Negative	Negative
June 7, 1918 .....	15.00	0.02	0.01	0.00	0.30	78.00	Negative	Negative
September 19, 1918 .....	20.00	0.06	0.02	0.00	0.50	64.00	Negative	Negative

### Water Supply of Camden, S. C.

Municipal Water & Light Plant. Superintendent, E. D. McCutchen. In charge of collection of samples, John W. Wilson and E. D. McCutchen. Chairman local Board of Health, W. G. Wilson.  
Source: Spring-fed Creek, 1 mile from city limits. Capacity, 7,200,000 gallons per day; filtered by mechanical filters. Treatment,  $1\frac{1}{4}$  grains Alum per gallon, 1.29 grains Soda Ash per gallon. Capacity of plant, 575,000 gallons per day. Service 54 per cent. of buildings connected and using city water supply.  
Sewerage system, 81 per cent. of buildings connected with sewerage system and have water closets. Sewage empties into Wateree River. No garbage disposal plant. Garbage emptied on outskirts of town and partly burned.

March 7, 1918	5.00	0.03	0.04	0.00	0.00	25.00	Negative
June 10, 1918	7.00	0.02	0.03	0.00	0.10	36.00	Negative
October 22, 1918	7.00	0.03	0.05	0.00	0.00	40.00	Negative

### Water Supply of Clinton, S. C.

Municipal Water & Light Plant. Superintendent, B. B. Mills. In charge of collection of samples, B. B. Mills. Chairman local Board of Health, Dr. T. L. W. Bailey.  
Source: Two wells, 10 and 8 inches in diameter and 500 feet deep, in city. Capacity, 180,000 gallons per day; not filtered. Average consumption, 75,000 gallons per day. Consumption per capita, 25 gallons per day. Service metered, 80 per cent. of buildings using city water supply.  
Sewerage system, 75 per cent. of buildings connected with sewer and have water closets. Septic tanks. Sewerage empties into two streams. No garbage disposal plant. Garbage dumped outside city limits.

April 8, 1918	9.00	0.01	0.02	0.00	0.20	218.00	Negative
June 28, 1918	9.00	0.01	0.01	0.00	0.20	200.00	Negative
October 30, 1918	11.00	0.02	0.02	0.00	0.20	173.00	Negative

### Water Supply of Charleston, S. C.

City Water Department, Commission of Public Works. Manager and Engineer, James E. Gibbon. In charge of collection of samples, Dr. F. L. Parker, Chairman of the local Board of Health, J. A. Ball.  
Source: Goose Creek, 12 miles from the city. This is an impounded supply, the reservoir being an old tide water basin dammed off from tidal sea water. Area of flooded reservoir, 2,500 acres. Capacity of reservoir, 3,000,000 gallons, which would supply 10,000,000 gallons per day. Filtered by mechanical filter. Treatment, Sulphate of Alumina, Hydrate of Lime and Liquid Chlorine. Capacity of plant, 7,000,000 gallons per day. Average consumption, 6,500,000 gallons per day. Consumption per capita, 100 gallons per day. Service, 70 per cent. metered.  
Sewerage system: Sewage empties into Charleston Harbor. Garbage disposal plant, incinerator.

April 2, 1918	36.00	0.01	0.12	0.00	0.10	157.00	Negative
June 20, 1918	38.00	0.01	0.04	0.00	0.10	195.00	Negative
October 10, 1918	55.00	0.04	0.12	0.00	0.10	255.00	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrites.	Nitrogen as Nitrates.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
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## Water Supply of Chester, S. C.

Chester Water Works, owned by city. Superintendent, J. H. McLure. In charge of collection of samples, J. H. McLure. Chairman local Board of Health, Dr. S. W. Prior.

Source: River 3 miles from city. Capacity 7,200,000 gallons per day, filtered by mechanical filter. Treatment, 2 grains of Alum per gallon. Capacity of plant, 720,000 gallons per day. Average consumption, 300,000 gallons per day. Consumption per capita, 60 gallons per day. Service metered, 85 per cent. of buildings using city water supply.

Sewerage system: 85 per cent. of city sewered and have water closets. No sewerage disposal plant. Sewage empties into Tan Yard Branch. Incinerator installed for disposal of garbage.

March 6, 1918	17.00	0.01	0.03	0.00	0.00	145.00	Negative	Negative
June 6, 1918	12.00	0.01	0.03	0.00	0.20	112.00	Negative	Negative
September 24, 1918	7.00	0.03	0.04	0.00	0.10	110.00	Negative	Negative

## Water Supply of Columbia, S. C.

Water Department, City of Columbia, S. C. Owned by city. Superintendent, F. C. Wyse. In charge of collection of samples, G. H. White, for Water Works and French Simpson for Board of Health. Local Health Officer, Dr. C. E. Smith.

Source: Congaree River, one mile from city. Capacity, practically unlimited. Filtered by rapid sand filters. Capacity of plant, 13,000,000 gallons per day. Treatment, 1.0 grain Alum per gallon. Average consumption 9,000,000 gallons per day.

Consumption per capita within city, 141 gallons per day, in cantonment, 79 gallons per day. Service metered, 99 per cent. buildings using city water.

Sewerage system: 85 per cent. of buildings connected with city sewer and have water closets. Sewage empties into Congaree River. Garbage is being dumped in out of the way places and covered with earth at present, and one garbage disposal plant is now under construction.

March 4, 1918	6.00	0.02	0.03	0.00	0.10	65.00	Negative	Negative
June 19, 1918	5.00	0.02	0.03	0.00	0.30	52.00	Negative	Negative
October 29, 1918	6.00	0.03	0.03	0.00	0.00	77.00	Negative	Negative

### Water Supply of Darlington, S. C.

Carolina Gas & Electric Co. Superintendent, C. L. Rometry. In charge of collection of samples, C. L. Rometry. Chairman of local Board of Health, Dr. J. T. Coggeshall.  
 Source: Wells, diameter 8 inches, depth 385 feet; diameter 6 inches, depth 200 feet; diameter 6 inches, depth 195 feet, in city. Capacity 288,000 gallons per day. Filtered by a mechanical filter. Treatment 0.4 grain Soda Ash per gallon, 0.2 grain per gallon Alum. Capacity of plant 225,000 gallons per day. Average consumption, 125,000 gallons per day. Consumption per capita, 35 gallons per day. Service metered, 75 per cent. of buildings using city water supply.  
 Sewerage system: almost all of town is sewered, 50 per cent. of buildings connected with sewer and have water closets.

March 4, 1918	6.00	0.02	0.03	0.00	0.00	0.00	147.00	Negative
June 14, 1918	6.00	0.01	0.02	0.00	0.00	0.00	72.00	Negative
September 19, 1918	6.00	0.01	0.03	0.00	0.00	0.00	64.00	Negative

### Water Supply of Dillon, S. C.

Dillon Water Works Plant. Owned by city. Secretary and Treasurer, B. A. Bedenbaugh. In charge of collection of samples, M. D. Davis. Chairman of local Board of Health, Dr. J. A. Hamer.  
 Source: About 2 miles from city, river. Capacity 288,000 gallons per day. Filtered by a mechanical filter. A duplicate pumping system has been installed at river. Treatment, Soda, Ash and Alum. Capacity of plant, 130,000 gallons per day. Average consumption 20,000 gallons per day. Consumption per capita, 30 gallons per day. Service metered, 50 per cent. of buildings using city water supply; 75 per cent. of city connected with sewerage system; 50 per cent. of buildings have water closets. Septic tank. Sewerage empties into Pee Dee River. No garbage disposal plant. Garbage dumped in low and suitable places.

March 5, 1918	9.00	0.01	0.05	0.00	0.00	0.00	66.00	Negative
June 1, 1918	7.00	0.01	0.04	0.00	0.00	0.00	122.00	Negative
September 23, 1918	7.00	0.01	0.03	0.00	0.00	0.10	28.00	Negative

### Water Supply of Easley, S. C.

City Water & Light Plant. Owned by city. Superintendent, C. D. Bolt. In charge of collection of samples, C. D. Bolt. Chairman local Board of Health, Ed. Farr.  
 Source: Wells and branch. Wells, diameter 2 inches, depth 40 feet, pumped. Distance from city, three-quarters of a mile. Capacity 200,000 gallons per day. Branch water filtered by mechanical filter. Treatment, Lime and Sulphate of Alumina. Average consumption 75,000 gallons per day. Consumption per capita, 17 gallons per day. Service metered, 75 per cent. of buildings use city water supply. Six miles of sewerage, disposal septic tank. No garbage disposal plant. Garbage dumped into large ditch.

March 19, 1918	9.00	0.01	0.02	0.00	0.00	0.20	23.00	Negative
June 13, 1918	5.00	0.01	0.02	0.00	0.00	0.10	29.00	Negative
September 26, 1918	5.00	0.03	0.04	0.00	0.00	0.30	56.00	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrates.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
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## Water Supply of Florence, S. C.

City of Florence Water Department. Owned by city. Superintendent, —. In charge of collection of samples, —. Chairman local Board of Health, Dr. J. G. McMaster.  
 Source: Well, 12-10-8 inch casing, 6 inch discharge, 650 feet deep; pump, air, in center of city hall. Capacity, 600,000 gallons per day; not filtered. Average consumption, 550,000 gallons per capita, 91 gallons per day. Service metered, 50 per cent. of buildings using city water supply.  
 Sewerage system: 60 per cent. of city sewered; 40 per cent. connections and water closets. Sewage disposal plant. Sewage empties into Jeffries Creek. Garbage disposal plant. Nye odorless incinerator, 10-ton capacity, located on outskirts of city.

June 4, 1918 .....	58.00	0.03	0.01	0.00	0.10	234.00	Negative
September 25, 1918 .....	62.00	0.02	0.01	0.00	0.30	285.00	Negative

## Water Supply of Gaffney, S. C.

Board of Public Works. Owned by city. Superintendent, L. V. Gaffney. In charge of collection of samples, L. V. Gaffney. Chairman of local Board of Health, G. G. Evers.  
 Source: Cherokee Creek  $3\frac{1}{2}$  miles from city; filtered by gravity filter. Treatment, 1 grain Alum per gallon. Capacity of plant 1,000,000 gallons per day. Average consumption, 150,000 gallons per day. Consumption per capita, 25 gallons per day. Service metered, 12 per cent. of buildings using city water supply.  
 Sewerage system: 8 per cent. of buildings connected with sewer and have water closets. Sewage disposal plant. Sewage empties into branch. Garbage disposal plant, incinerator. Septic tank.

March 19, 1918 .....	7.00	0.02	0.03	0.00	0.10	114.00	Negative
June 10, 1918 .....	7.00	0.01	0.03	0.00	0.20	106.00	Negative
September 24, 1918 .....	6.00	0.02	0.02	0.00	0.30	134.00	Negative

### Water Supply of Georgetown, S. C.

Black River Water Company, R. J. Clifford, President. In charge of collection of samples, Dr. H. L. Wright. Chairman local Board of Health, Dr. W. W. Gaillard.  
Source: Black River, 75 miles from city by river, 15 miles by air line. Capacity 1,000,000 gallons per day. Filtered by slow sand filter. No treatment. Capacity of plant, 1,000,000 gallons per day. Average consumption, 177,000 gallons per day. Consumption per capita, 75 gallons per day. Service, metered.  
Sewerage system: 60 per cent. of city sewered. Sewage empties into Sampit River. No garbage disposal plant. Garbage dumped in low places on abandoned rice fields.

March 4, 1918	10.00	0.02	0.04	0.00	0.10	94.00	Negative
June 3, 1918	9.00	0.01	0.01	0.00	0.10	85.00	Negative
September 25, 1918	12.00	0.02	0.07	0.00	0.30	94.00	Negative

### Water Supply of Graniteville, S. C.

Graniteville Manufacturing Company. Superintendent, G. H. Leitner. In charge of collection of samples, E. F. Delvin.  
Source: Spring 1 mile from town. Not filtered. Capacity, 40,000 gallons per day. Average consumption, 22,000 gallons per day. Consumption per capita, 20 gallons per day. Service not metered; 2 per cent. of buildings using city water supply.  
Sewerage system: 10 per cent. city sewered, 2 per cent. of buildings connected with sewer. Sewage empties into Horse Creek. No garbage disposal plant. Garbage dumped outside of town limits.

March 2, 1918	10.00	0.00	0.04	0.00	0.00	30.00	Negative
June 22, 1918	9.00	0.01	0.01	0.00	0.10	42.00	Negative
September 29, 1918	6.00	0.03	0.02	0.00	0.30	20.00	Negative

### Water Supply of Greenwood, S. C.

Greenwood Water & Electric Plant. Owned by the city. Superintendent, A. J. Sproles. In charge of collection of samples, A. J. Sproles. Chairman local Board of Health, Dr. W. P. Turner.  
Source: Eight wells, diameter 8 inches, 300 feet deep, 1½ miles from city. Capacity, 1,440,000 gallons per day; not filtered. Average consumption, 350,000 gallons per day. Consumption per capita, 40 gallons per day. Service metered, 75 per cent. of buildings using city water supply.  
Sewerage system: 60 per cent. of city sewered. Treatment, septic tank on to sand and gravel. No garbage disposal plant. Garbage dumped on vacant lots.

March 11, 1918	10.00	0.01	0.03	0.00	0.00	209.00	Negative
June 13, 1918	9.00	0.02	0.02	0.00	0.10	180.00	Negative
October 19, 1918	7.00	0.01	0.03	0.00	0.00	228.00	Negative



## ANALYSIS OF LAST QUARTERLY INSPECTION OF WATER—Continued.

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Am- monia.	Nitrogen as Ni- trates.	Nitrogen as Ni- trates.	Total Solids.	Bacterial Indica- tions of Contam- ination.	Chemical Indica- tions of Contam- ination.
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## Water Supply of Greenville, S. C.

Greenville City Water Works. Superintendent, H. W. Perry. In charge of collection of samples, H. W. Perry. Chairman of local Board of Health, Dr. Davis Furman.  
Source: Streams in Paris Mountain to reservoirs, 8 and 12 miles from city; gravity system. Capacity, 5,000,000 gallons per day; not filtered. Average consumption, 1,250,000 gallons per day. Consumption per capita, 40 gallons per day. Service metered; 98 per cent. of buildings using city water supply.  
Sewerage system: 75 per cent. of city sewerred and have water closets. Sewage empties into Reedy River. Garbage disposal plant. Garbage dumped at crematory and burned.

March 14, 1918	5.00	0.01	0.03	0.00	0.00	35.00	Negative	Negative
June 8, 1918	6.00	0.01	0.05	0.00	0.00	51.00	Negative	Negative
October 7, 1918	5.00	0.02	0.03	0.00	0.00	37.00	Negative	Negative

## Water Supply of Hartsville, S. C.

Board of Commission Public Works. Owned by the city. Superintendent, J. A. Tyner. In charge of collection of samples, J. A. Tyner. Chairman of local Board of Health, D. R. Coker.  
Source: Well 12 miles from the city, 3½ inches in diameter, 287 feet deep; pumped. Capacity 237,000 gallons per day; not filtered. Capacity of plant, 237,600 gallons per day. Average consumption, 175,000 gallons per day. Consumption per capita, 60 gallons per day. Service metered.  
Sewerage system: 65 per cent. of city sewerred. Sewage empties into Black Creek. Garbage disposal plant. Garbage burned.

March 15, 1918	6.00	0.01	0.01	0.00	0.00	78.00	Negative	Negative
June 6, 1918	5.00	0.02	0.02	0.00	0.00	33.00	Negative	Negative
October 7, 1918	5.00	0.01	0.01	0.00	0.00	27.00	Negative	Negative

### Water Supply of Greer, S. C.

Commission of Public Works. Owned by city. Superintendent, C. C. McGowan. In charge of collection of samples, C. C. McGowan. Chairman local Board of Health, Dr. S. E. Holtzclaw. Capacity, 230,000 gallons per day; not filtered. Average consumption, 100,000 gallons per day. Source: Four wells, in city. 32 per cent. of buildings using city water supply. Service metered, 32 per cent. of buildings connected with sewerage system and have water closets. Sewage empties into Sewerage system: 30 per cent. of buildings connected with sewerage system and have water closets. Sewage empties into branches. No garbage disposal plant. Garbage dumped in fields outside city limits.

May 4, 1918	7.00	0.01	0.01	0.00	0.2	48.00	Negative
October 29, 1918	5.00	0.01	0.01	0.00	0.2	44.00	Negative

### Water Supply of Kingstree, S. C.

Kingstree Water Works. Owned by city. Superintendent, S. C. Anderson. In charge of collection of samples, S. C. Anderson. Chairman local Board of Health, T. McCutchen. Source: Well one-half mile from city.  $3\frac{1}{2}$  inches in diameter, 287 feet deep, pumped. Capacity, 237,600 gallons per day; not filtered. Capacity of plant, 237,600 gallons per day. Average consumption 175,000 gallons per day. Consumption per capita, 60 gallons per day. Service metered, 40 per cent. of buildings using city water supply. Sewerage system: 80 per cent. of city sewerage, 40 per cent. of buildings connected with sewerage and have water closets. Sewerage disposal plant: sewage treated with kerosene and salt. Sewage empties into Black Creek. No garbage disposal plant. Garbage dumped outside city and burned.

March 22, 1918	9.00	0.04	0.01	0.00	0.00	260.00	Negative
June 4, 1918	8.00	0.02	0.04	0.00	0.00	323.00	Negative
October 22, 1918	10.00	0.04	0.04	0.00	0.10	338.00	Negative

### Water Supply of Lancaster, S. C.

In charge of Commission of Public Works. Owned by city. R. S. Harper, Superintendent. In charge of collection of samples, Dr. W. F. Laing. Chairman local Board of Health, W. R. Thompson. Source: Two creeks  $1\frac{1}{2}$  miles from city. Capacity, 1,000,000 gallons per day; filtered by mechanical filter. Treatment, 1 grain Alum per gallon. Capacity of plant, 720,000 gallons per day. Average consumption, 300,000 gallons per day. Sewerage system: 70 per cent. of city sewerage and have water closets. Service metered: 75 per cent. of buildings using city water supply. Consumption per capita, 20 gallons per day. Sewage empties into Little River. No garbage disposal plant. Garbage dumped outside city limits and treated with lime when necessary.

March 14, 1918	20.00	0.02	0.03	0.00	0.10	58.00	Negative
June 6, 1918	15.00	0.03	0.05	0.00	0.00	64.00	Negative
October 22, 1918	11.00	0.02	0.05	0.00	0.00	95.00	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Am- monia.	Nitrogen as Ni- trates.	Nitrogen as Ni- trates.	Total Solids.	Bacterial Indica- tions of Contam- ination.	Chemical Indica- tions of Contam- ination.
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## Water Supply of Laurens, S. C.

Municipal Light & Water Plant. Superintendent, J. E. Philpot. In charge of collection of samples, J. E. Philpot. Chairman local Board of Health, Dr. R. E. Hughes.  
Source: Wells and creek, within city limits; filtered with mechanical filter. Treatment, 1 grain Alum per gallon. Capacity of plant, 250,000 gallons per day. Average consumption, 250,000 gallons per day. Consumption per capita, 25 gallons per day. Service metered, 90 per cent. of buildings using city water supply.  
Sewerage system: 75 per cent. of buildings connected with sewer and have water closets. Sewage empties into Little River. No garbage disposal plant. Garbage dumped outside city limits and treated with Lime when necessary.

March 14, 1918	13.00	0.03	0.03	0.00	0.20	132.00	Negative	Negative
July 5, 1918	12.00	0.01	0.01	0.00	0.20	203.00	Negative	Negative
October 22, 1918	12.00	0.02	0.03	0.00	0.20	154.00	Negative	Negative

## Water Supply of McColl, S. C.

City of McColl Water Works. Superintendent, J. H. Dougherty. In charge of collection of samples, J. H. Dougherty. Chairman local Board of Health, Dr. D. Hamer.  
Source: Two wells, 6 inches in diameter and 100 feet deep, pumped, within city. Capacity, 144,000 gallons per day; not filtered. Capacity of plant, 144,000 gallons per day. Average consumption, 80,000 gallons per day. Consumption per capita, 23 gallons per day. Service metered, 90 per cent. of buildings use city water supply.  
Sewerage system: Entire city sewered; 50 per cent. of buildings have closets. Sewage empties into Planter Creek. Sewage disposal plant. No garbage disposal plant. Garbage dumped outside city limits.

March 21, 1918	10.00	0.01	0.02	0.00	0.02	34.00	Negative	Negative
June 28, 1918	8.00	0.01	0.01	0.00	0.10	71.00	Negative	Negative
October 22, 1918	7.00	0.02	0.02	0.00	0.10	36.00	Negative	Negative

### Water Supply of Marion, S. C.

Carolina Gas & Electric Co. General Superintendent, P. A. Tillery, Raleigh, N. C. In charge of collection of samples, D. Thomlinson, local Superintendent. Chairman local Board of Health, Dr. E. M. Dibble.  
Source: Wells, diameter, 8 and 10 inches, depth 100 and 150 feet, in city. Capacity, 150,000 gallons per day; not filtered. Capacity of plant 150,000 gallons per day. Average consumption, 75,000 gallons per day. Consumption per capita, 15 gallons per day. Service metered about 50 per cent. of buildings using city water supply.  
Sewerage system: Entire city sewer; 40 per cent. of buildings connected with sewer and have water closets. Septic tank. Sewage empties into Cathish Creek. Garbage dumped on "Dump Grounds" outside city and set on fire. No garbage disposal plant.

March 29, 1918 .....	10.00	0.02	0.02	0.00	0.00	204.00	Negative
June 3, 1918 .....	9.00	0.02	0.02	0.00	0.10	211.00	Negative
October 7, 1918 .....	7.00	0.01	0.02	0.00	0.00	197.00	Negative

### Water Supply of Mullins, S. C.

Board of Public Works. Owned by town of Mullins. Superintendent, G. M. Brown. In charge of collection of samples, G. M. Brown. Chairman local Board of Health, Dr. J. W. Hollis.  
Source: Deep well, 10 inches in diameter, 350 feet deep, in city. Capacity, 125,000 gallons per day. Capacity of plant, 125,000 gallons per day; average consumption, 75,000 gallons per day. Service metered, 99 per cent. buildings using city water supply, 20 per cent. Septic tanks, 4-10 of 1 per cent.  
Sewerage system: 40 per cent. city sewer, 30 per cent. of buildings are connected with sewer and have water closets. Sewage empties into open stream, White Oak. No garbage disposal plant. Garbage dumped in city.

March 23, 1918 .....	12.00	0.01	0.01	0.00	0.00	215.00	Negative
June 26, 1918 .....	12.00	0.01	0.01	0.00	0.10	224.00	Negative
October 7, 1918 .....	12.00	0.01	0.01	0.00	0.20	226.00	Negative

### Water Supply of Manning, S. C.

Manning Water Works. Owned by the city. Superintendent F. P. Ervin. In charge of collection of samples, F. P. Ervin.  
Source: Well 6 inches in diameter and 485 feet deep. Capacity, 86,400 gallons per day. Not filtered. Total capacity of plant, 431,400 gallons per day. Average consumption, 24,000 gallons per day. Service metered, 60 per cent. of buildings using city water supply.  
Sewerage system: 75 per cent. of city sewer, 15 per cent. water closets. Sewage empties into Black River Swamp. No garbage disposal plant.

June 8, 1918 .....	9.00	0.01	0.02	0.002	0.00	164.00	Negative
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## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrates.	Nitrogen as Nitrates.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
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## Water Supply of Newberry, S. C.

In charge of Commission of Public Works. Owned by city. Superintendent, H. W. Schumpert. In charge of collection of samples, Dr. F. K. Gilder. Chairman of local Board of Health, Dr. F. K. Gilder. Source: Wells 2 and 8 inches in diameter, 300 and 325 feet deep; pumped by air, in city limits. Capacity, 216,000 gallons per day; not filtered. Average consumption, 140,000 gallons per day. Consumption per capita, 23 gallons per day. Service metered, 95 per cent. of buildings using city water supply. Sewerage system: 75 per cent. connected with sewer. No connection in tenement houses in cotton mill districts. Using a system of "Pot Dry Closets." Sewage disposal plant. Septic tank and filter. Sewage empties into Scott's Creek. Incinerator is installed for disposal of garbage.

March 14, 1918	36.00	0.00	0.01	0.00	0.10	368.00	Negative	Negative
June 3, 1918	37.00	0.02	0.02	0.00	0.30	359.00	Negative	Negative
September 24, 1918	33.00	0.02	0.03	0.00	0.40	491.00	Negative	Negative

## Water Supply of North Augusta, S. C.

North Augusta Works. Owned by corporation. James U. Jackson, Receiver. In charge of collection of samples, W. E. Mealing. Chairman local Board of Health, W. E. Mealing. Source: Springs forming lake in city. Not filtered. Treatment, 1.50 pounds Hypochlorite of Lime to 1,500,000 gallons. Capacity, 400,000 gallons per day. Capacity of plant, 330,000 gallons per day. Average consumption 250,000 gallons per day. Service metered. Sewerage system: 80 per cent. of city sewered. Sewage empties into Savannah River. No garbage disposal plant. Garbage dumped outside of town.

March 29, 1918	7.00	0.02	0.02	0.00	0.20	62.00	Positive	Negative
June 12, 1918	8.00	0.02	0.05	0.00	0.10	36.00	Positive	Negative
October 7, 1918	6.00	0.01	0.03	0.00	0.40	43.00	Positive	Negative

### Water Supply of Orangeburg, S. C.

Orangeburg Water & Light Plant. Owned by city. Superintendent, J. R. Fizer. In charge of collection of samples, J. R. Fizer. Chairman local Board of Health, Dr. C. I. Green. Source: Wells, 5 and 8 inches in diameter, 200 feet deep, pumped and flowing in city. Capacity, 1,000,000 gallons per day; not filtered. Capacity of plant, 700,000 gallons per day. Average consumption, 230,000 gallons per day. Consumption per capita, 33 gallons per day. Service 60 per cent. metered. Sewerage system: 50 per cent. of buildings connected with sewerage system and have water closets. Sewage empties into Edisto River. Garbage dumped at incinerator and burned.

March 12, 1918	12.00	0.01	0.02	0.00	0.20	210.00	Negative
June 10, 1918	8.00	0.01	0.16	0.00	0.00	206.00	Negative
October 9, 1918	70.00	0.01	0.02	0.00	0.00	205.00	Negative

### Water Supply of Rock Hill, S. C.

Water & Electric Department, City of Rock Hill. Manager, J. G. Barnwell. In charge of collection of samples, S. T. Frew. Chairman local Board of Health, Dr. J. R. Miller. Source: Catawba River, 6 miles from city. Filtered by mechanical filter. Treatment,  $\frac{3}{4}$  grain of Alum per gallon,  $\frac{1}{2}$  grain Lime per gallon, 0.05 grain Hypochlorite of Lime per gallon. Capacity of plant, 1,000,000 gallons per day. Average consumption, 275,000 gallons per day. Consumption per capita, 37 gallons per day. Service metered, 50 per cent. of buildings using city water supply. Sewerage system: 25 per cent. of buildings connected with sewerage system have water closets. Sewage empties into small streams after Imhoff tank treatment, thence into Catawba River. Sewerage disposal plant. Garbage dumped on city farm.

March 15, 1918	8.00	0.01	0.02	0.00	0.00	174.00	Negative
June 6, 1918	6.00	0.02	0.03	0.00	0.10	119.00	Negative
October 5, 1918	5.00	0.02	0.03	0.00	0.00	79.00	Negative

### Water Supply of Spartanburg, S. C.

Spartanburg Water Works. Owned by city. Superintendent, M. M. Boyd. In charge of collection of samples, J. O. Erwin, Jr. Chairman local Board of Health, Dr. J. W. Allen. Source: Chincquepin Creek and Sholly Creek,  $\frac{1}{2}$  mile from city. Capacity, 5,000,000 gallons per day; filtered by mechanical filters. Treatment, 0.6 grain Alum per gallon. Average consumption, 1,250,000 gallons per day. Consumption per capita, 60 gallons per day. Service, 65 per cent. of buildings using city water supply. Sewerage system: 55 per cent. of buildings connected with sewer and have water closets. Sewage empties into Lawson's Fork Creek and Fair Forest Creek, 1-8 mile from city limits. Garbage disposal plant, garbage burned. Garbage dumped on outskirts of city.

March 14, 1918	6.00	0.02	0.02	0.00	0.20	57.00	Negative
July 5, 1918	5.00	0.01	0.01	0.00	0.10	93.00	Negative
October 7, 1918	6.00	0.02	0.03	0.001	0.10	65.00	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrites.	Nitrogen as Nitrates.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
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## Water Supply of Sumter, S. C.

City Water Works. Owned by city. Superintendent, W. W. McKagan. In charge of collection of samples, W. W. McKagan. Chairman of local Board of Health, J. M. McKeiver.  
 Source: 15 wells, 6 inches in diameter, 50 to 430 feet deep, pumped; pumps in pit 9 feet below surface; 1 mile from city. Capacity, 1,800,000 gallons per day; not filtered. Capacity of plant, electric, 720,000 gallons per day. Consumption per capita, 35 gallons per day. Service 75 per cent. metered; 75 per cent of buildings connected with sewer and have water closets. Sewerage empties into Turkey Creek and Green Swamp. Septic tanks. No garbage disposal plant. Garbage dumped on lot outside city limits.

March 15, 1918 .....	13.00	0.02	0.01	0.00	0.30	102.00	Negative	Negative
June 3, 1918 .....	11.00	0.05	0.04	0.001	0.30	94.00	Negative	Negative
October 7, 1918 .....	12.00	0.03	0.02	0.00	0.50	75.00	Negative	Negative

## Water Supply of Timmons ville, S. C.

Board of Public Works. Superintendent, B. Carter. In charge of collection of samples, B. Carter. Chairman local Board of Health, J. E. Patterson.  
 Source: Well 8 inches in diameter, 526 feet deep, on outer edge of town. Capacity, 300,000 gallons per day. Average consumption, 20,000 gallons per day. Consumption per capita, 20 gallons per day. Service metered, 80 per cent. of buildings using city water supply.  
 Sewerage system: 60 per cent. of buildings connected with sewer and have water closets. Septic tank. Sewage empties into Sparrow Swamp. No garbage disposal plant. Garbage burnt and dumped into swamp.

April 4, 1918 .....	8.00	0.01	0.02	0.00	0.00	137.00	Negative	Negative
July 5, 1918 .....	7.00	0.01	0.01	0.00	0.00	126.00	Negative	Negative
October 26, 1918 .....	6.00	0.01	0.02	0.00	0.10	106.00	Negative	Negative

### Water Supply of Union, S. C.

Municipal Electric Light & Water Works. Owned by town. Superintendent, R. A. Easterling. Chairman local Board of Health, S. G. Sarratt. In charge of collection of samples, R. A. Easterling. Source: Creek 2 miles from city. Capacity, 15,000,000 gallons per day. Filtered by mechanical filter. Treatment, Alum. Capacity of plant, 500,000 gallons per day. Average consumption, 400,000 gallons per day. Consumption per capita, 35 gallons per day. Service metered, 80 per cent. of buildings using city water supply. Sewage empties into Buffalo Creek. No garbage disposal system: 75 per cent. of city sewered and have water closets. Sewage empties into Buffalo Creek. No garbage disposal plant. Garbage dumped outside city limits.

March 16, 1918	7.00	0.02	0.03	0.00	0.10	113.00	Negative
June 3, 1918	6.00	0.02	0.02	0.00	0.20	69.00	Negative
October 2, 1918	5.00	0.02	0.01	0.00	0.20	83.00	Negative

### Water Supply of Winnsboro, S. C.

Board of Public Works. Owned by town. Superintendent, T. R. Ellison. In charge of collection of samples, T. R. Ellison. Chairman local Board of Health, Dr. J. E. Douglas. Source: Creek 2 miles from city; filtered. Capacity, 1,000,000 gallons per day. Treatment, Alum. Average consumption 75,000 gallons per day. Consumption per capita, 40 gallons per day. Service not metered; 80 per cent. of buildings using city water supply. Sewerage system: 85 per cent. of city sewered; 75 per cent. of buildings connected with sewer. Sewage empties into Cathcart's Branch,  $\frac{1}{2}$  mile from city. Septic tank. No garbage disposal plant. Garbage dumped in low waste places.

March 4, 1918	10.00	0.01	0.04	0.00	0.00	111.00	Negative
June 6, 1918	12.00	0.01	0.03	0.00	0.10	87.00	Negative
October 7, 1918	12.00	0.02	0.02	0.00	0.00	87.00	Negative

### Water Supply of Woodruff, S. C.

Board of Public Works. Owned by town. Superintendent, T. W. Cox. In charge of collection of samples, T. W. Cox. Chairman local Board of Health, T. W. Cox. Source: Well  $\frac{1}{4}$  mile from city, depth 400 feet. Capacity, 105,000 gallons per day. Capacity of plant, 200,000 gallons per day. Average consumption 105,000 gallons per day. Service metered, 40 per cent. buildings using city water supply. Sewerage system: 75 per cent. of city sewered; 40 per cent. of buildings connected with sewer and have closets. Two septic tanks. Sewage empties into Branch and Creek. No garbage disposal plant. Garbage dumped in tank.

March 6, 1918	6.00	0.01	0.01	0.00	0.00	259.00	Negative
July 5, 1918	7.00	0.01	0.02	0.00	0.00	310.00	Negative
October 12, 1918	6.00	0.01	0.04	0.00	0.00	301.00	Negative



## RESULTS IN PARTS PER MILLION (Continued).

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Am- monia.	Nitrogen as NI- trates.	Total Solids.	Bacterial Indica- tions of Con- tamination.	Chemical Indica- tions of Con- tamination.
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## Water Supply of York, S. C.

Yorkville Water Plant. Owned by city. Superintendent, J. O. Wray. In charge of collection of samples, J. O. Wray. Chair-  
man local Board of Health, Dr. M. T. Walker.  
Source: Branch,  $\frac{1}{4}$  mile from city. Capacity, 800,000 gallons per day; filtered by mechanical filter. Treatment,  $\frac{1}{2}$  grain  
Alum per gallon. Capacity of plant, 500,000 gallons per day. Average consumption, 200,000 gallons per day. Consumption  
per capita, 35 gallons per day. Service metered, 70 per cent. of buildings connected with city water supply.  
Sewerage system: 50 per cent. of buildings connected with sewerage and have water closets. Sewage empties into Fishing  
Creek on east and Turkey Creek on west. No garbage disposal plant. Garbage dumped on wornout land outside city  
limits.

March 19, 1918 .....	8.00	0.01	0.02	0.00	111.00	Negative	Negative
June 11, 1918 .....	8.00	0.01	0.03	0.00	89.00	Negative	Negative
October 22, 1918 .....	8.00	0.02	0.04	0.00	100.00	Negative	Negative

## ANALYSIS OF LAST QUARTERLY INSPECTION OF WATER FOR STATE BOARD OF HEALTH.

## Abbeville, S. C.

December 20, 1918 .....	8.00	0.02	0.04	0.00	140.00	Negative	Negative
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## Aiken, S. C.

December 17, 1918 .....	5.00	0.06	0.02	0.016	37.00	Negative	Negative
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## Allendale, S. C.

December 14, 1918 .....	4.00	0.01	0.02	0.00	147.00	Negative	Negative
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## Anderson, S. C.

December 14, 1918 .....	4.00	0.01	0.02	0.00	0.20	67.00	Negative	Negative
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## Barnwell, S. C.

December 22, 1918 .....	5.00	0.01	0.01	0.00	0.00	105.00	Negative	Negative
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## Beaufort, S. C.

December 14, 1918 .....	35.00	0.05	0.03	0.00	0.00	229.00	Negative	Negative
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## Bennettsville, S. C.

December 17, 1918 .....	19.00	0.03	0.01	0.00	0.30	50.00	Negative	Negative
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## Camden, S. C.

January 3, 1919 .....	5.00	0.02	0.02	0.00	0.00	27.00	Negative	Negative
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## Charleston, S. C.

December 16, 1918 .....	90.00	0.05	0.12	0.00	0.10	1335.00	Negative	Negative
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## Chester, S. C.

December 26, 1918 .....	9.00	0.02	0.03	0.00	0.00	103.00	Negative	Negative
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## Clinton, S. C.

December 12, 1918 .....	12.00	0.01	0.01	0.00	0.20	213.00	Negative	Negative
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## Columbia, S. C.

December 16, 1918 .....	8.00	0.01	0.01	0.00	0.00	65.00	Negative	Negative
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## Darlington, S. C.

December 22, 1918 .....	7.00	0.01	0.01	0.00	0.00	45.00	Negative	Negative
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## ANALYSIS OF LAST QUARTERLY INSPECTION OF WATER—Continued.

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Am- monia.	Nitrogen as Ni- trates.	Nitrogen as Ni- trates.	Total Solids.	Bacterial Indica- tions of Con- tamination.	Chemical Indica- tions of Con- tamination.
Dillon, S. C.								
December 21, 1918 .....	7.00	0.02	0.02	0.00	0.10	63.00	Negative	Negative
Easley, S. C.								
December 17, 1918 .....	4.00	0.01	0.01	0.00	0.10	46.00	Negative	Negative
Gaffney, S. C.								
December 20, 1918 .....	6.00	0.01	0.01	0.00	0.20	65.00	Negative	Negative
Georgetown, S. C.								
December 16, 1918 .....	10.00	0.02	0.06	0.00	0.20	96.00	Negative	Negative
Graniteville, S. C.								
December 19, 1918 .....	7.00	0.03	0.02	0.00	0.00	19.00	Negative	Negative
Greer, S. C.								
December 20, 1918 .....	4.00	0.01	0.01	0.00	0.30	49.00	Negative	Negative
Greenville, S. C.								
December 14, 1918 .....	6.00	0.01	0.02	0.00	0.10	43.00	Negative	Negative

<b>Hartsville, S. C.</b>							
December 14, 1918	.....	3.00	0.01	0.01	0.001	0.10	31.00 Negative
<b>Kingstree, S. C.</b>							
December 14, 1918	.....	9.00	0.05	0.01	0.00	0.10	291.00 Negative
<b>Lancaster, S. C.</b>							
December 27, 1918	.....	12.00	0.02	0.03	0.00	0.00	74.00 Negative
<b>Laurens, S. C.</b>							
December 14, 1918	.....	11.00	0.01	0.03	0.00	0.40	138.00 Negative
<b>Marion, S. C.</b>							
December 14, 1918	.....	8.00	0.02	0.01	0.00	0.00	231.00 Negative
<b>McColl, S. C.</b>							
December 19, 1918	.....	6.00	0.01	0.01	0.00	0.30	42.00 Negative
<b>Mullins, S. C.</b>							
December 16, 1918	.....	15.00	0.02	0.01	0.00	0.00	171.00 Negative
<b>Newberry, S. C.</b>							
December 14, 1918	.....	42.00	0.01	0.01	0.00	0.40	382.00 Negative
<b>Orangeburg, S. C.</b>							
December 21, 1918	.....	8.00	0.01	0.00	0.00	0.00	191.00 Negative
<b>Rock Hill, S. C.</b>							
December 13, 1918	.....	6.00	0.05	0.02	0.00	0.10	111.00 Negative



## ANALYSIS OF LAST QUARTERLY INSPECTION OF WATER—Continued.

Sample Drawn.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Nitrogen as Nitrites.	Nitrogen as Nitrates.	Total Solids.	Bacterial Indications of Contamination.	Chemical Indications of Contamination.
<b>Spartanburg, S. C.</b>								
December 12, 1918	7.00	0.01	0.02	0.00	0.00	49.00	Negative	Negative
<b>Sumter, S. C.</b>								
December 16, 1918	10.00	0.54	0.02	0.001	0.40	51.00	Negative	Negative
<b>Union, S. C.</b>								
December 18, 1918	5.00	0.01	0.01	0.00	0.00	38.00	Negative	Negative
<b>Winnsboro, S. C.</b>								
December 21, 1918	10.00	0.02	0.02	0.00	0.10	105.00	Negative	Negative
<b>Woodruff, S. C.</b>								
December 12, 1918	7.00	0.01	0.01	0.00	0.00	264.00	Negative	Negative
<b>York, S. C.</b>								
December 13, 1918	9.00	0.02	0.02	0.00	0.10	135.00	Negative	Negative
<b>Bamberg, S. C.</b>								
December 17, 1918	5.00	0.01	0.01	0.00	0.00	37.00	Negative	Negative

## FINANCIAL STATEMENT

The following is a correct statement of the expenditures of the State Board of Health for the fiscal year 1918, showing to whom paid and for what purpose. All claims against the Board are itemized and rendered in duplicate, the original being attached to warrant of Comptroller General and forwarded to his office for payment—the duplicate being filed in this office.

Voucher		CONTINGENT.	
1918	No.		
Feb.	28. 1.	To Western Union Telegraph Co., official telegrams.....	\$ 19 91
Feb.	28. 2.	To M. C. Davis, salary.....	120 00
Feb.	28. 3.	To H. M. Smith, salary.....	100 00
Feb.	28. 4.	To J. T. McCaw, office supplies.....	3 30
Feb.	28. 5.	To Jas. A. Hayne, incidental expenses for office.....	51 41
Feb.	28. 6.	To Columbia Lumber & Mfg. Co., lumber.....	21 38
Feb.	28. 7.	To Gulf Atlantic Ins. Co., annual premium on bond, for State Health officer.....	7 00
Feb.	28. 8.	To Terven-Childs Electric Company, motor.....	5 00
Feb.	28. 9.	To Palmetto Ice Company, ice tickets.....	17 00
Feb.	28. 10.	To Jas. C. Covington, county map.....	5 00
Feb.	28. 11.	To Murray Drug Company, tubes "Kelene".....	2 65
Feb.	28. 12.	To R. J. Patterson, services to guard in meningitis cases.....	20 00
Feb.	28. 13.	To B. H. Baggott, services as Special Agent in the suppression of smallpox.....	17 28
Feb.	28. 14.	To Underwood Typewriter Company, coupon book for ribbons.....	5 00
Feb.	28. 15.	To Columbia Office Supply Company, office supplies.....	2 15
Feb.	28. 16.	To Lorick Bros., laboratory supplies.....	7 00
Feb.	28. 17.	To E. R. Squibb & Sons, diphtheria antitoxin.....	340 90
Mar.	1. 18.	To Columbia Ry. Gas & Electric Company, gas consumed.....	41 68
Mar.	1. 19.	To Western Union Telegraph Co., official telegrams.....	31 88
Mar.	1. 20.	To Southern Bell Telephone & Telegraph Co., official phone and toll service.....	32 00
Mar.	1. 21.	To L. A. Riser, automobile service for dairy inspection.....	20 00
Mar.	5. 22.	To Southern Bell Telephone & Telegraph Co., official phone and toll service.....	40 40
Mar.	5. 23.	To R. F. Dukes, services to guards in meningitis cases.....	61 00
Mar.	5. 24.	To Murray Drug Company, bottles.....	3 00
Mar.	5. 25.	To F. A. Coward, incidental expenses for Laboratory.....	130 23
Mar.	6. 26.	To Palmetto National Bank, rent for offices.....	58 00
Mar.	6. 27.	To H. K. Mulford Co., tetanus antitoxin.....	48 60
Mar.	6. 28.	To The State Company, advertising.....	2 24
Mar.	6. 29.	To Stanley's China Hall, mop for Laboratory.....	1 10
Mar.	9. 30.	To Murray Drug Company, Laboratory supplies.....	19 80
Mar.	9. 31.	To E. Michaels, guinea pigs.....	14 40
Mar.	9. 32.	To Walter T. Love & Co., rent for offices.....	116 00
Mar.	9. 33.	To Nathan Berman, services rendered.....	16 50
Mar.	11. 34.	To Lever, The Shoe Man, rubbers for protection against chemicals used in cleaning floors at Laboratory.....	1 50
Mar.	14. 35.	To Terven-Childs Electric Co., motor and repairs on centrifuge.....	6 15
Mar.	14. 36.	To Murray Drug Company, Medical supplies used during meningitis epidemic.....	1 40
Mar.	14. 37.	To Schieffelin & Co., antimeningitis serum.....	36 00
Mar.	14. 38.	To Lederle Antitoxin Laboratories, antimeningitis serum.....	259 20
Mar.	14. 39.	To E. R. Squibb & Sons, antimeningitis serum.....	30 00
Mar.	14. 40.	To H. K. Mulford Co., antimeningitis serum.....	1,945 80
Mar.	16. 41.	To E. R. Squibb & Sons, diphtheria antitoxin.....	221 65
Mar.	19. 42.	To E. R. Squibb & Sons, typhoid paratyphoid bacterin.....	300 00
Mar.	19. 43.	To E. R. Squibb & Sons, antimeningitis serum.....	90 00
Mar.	30. 44.	To M. C. Davis, salary.....	60 00
Mar.	30. 45.	To H. M. Smith, salary.....	50 00
Mar.	30. 46.	To E. R. Squibb & Sons, vaccine virus.....	340 00
Mar.	30. 47.	To E. Michaels, guinea pigs.....	24 00
Mar.	30. 48.	To Columbia Grocery Co., purchase of groceries for Sam Coleman and Ernest Thompson while under meningitis quarantine.....	12 18
Mar.	30. 49.	To L. E. White, services to guards in quarantine cases.....	36 35
Mar.	30. 50.	To Underwriter Co., cleaning and aligning typewriter.....	9 75
Mar.	30. 51.	To The Selig Co., paper towels.....	12 50
Mar.	30. 52.	To Murray Drug Co., Laboratory supplies.....	37 10
Apr.	8. 53.	To Western Union Telephone & Telegraph Co., official telegrams.....	24 18
Apr.	10. 54.	To Walter T. Love & Co., rent for offices.....	58 00



		Voucher	
		No.	
1918			
Apr.	10.	55.	To Southern Bell Telephone & Telegraph Co., official phone and toll service.....
Apr.	10.	56.	To Columbia Ry. Gas & Electric Co., gas consumed.....
Apr.	15.	57.	To Jas. R. Cain, guinea pigs and rabbits, and extra help at Laboratory.....
Apr.	19.	58.	To Nathan Berman, automobile hire for trips regarding meningitis cases.....
Apr.	23.	59.	To Columbia Lumber & Mfg. Co., lumber.....
Apr.	23.	60.	To Palmetto Ice Co., tickets.....
Apr.	23.	61.	To Daggett Printing Co., circulars.....
Apr.	23.	62.	To R. L. Bryan Co., desk and chair.....
Apr.	23.	63.	To Cancelled.....
Apr.	23.	64.	To Paul B. Hoerber, Kolmer, Immunity.....
Apr.	23.	65.	To M. G. Wood & Son, guinea pigs.....
Apr.	23.	66.	To Columbia Office Supply Co., office supplies.....
Apr.	24.	67.	To Murray Drug Co., mailing cases.....
Apr.	24.	68.	To Southern Aseptic Laboratory, absorbent cotton.....
Apr.	24.	69.	To Jas. A. Hayne, incidental expenses for office.....
Apr.	30.	70.	To Jas. R. Cain, incidental expenses for Laboratory.....
Apr.	30.	71.	To M. C. Davis, salary.....
Apr.	30.	72.	To Southern Express Co., express on various parcels.....
Apr.	30.	73.	To Walter T. Love & Co., rent for offices.....
Apr.	30.	74.	To Southern Bell Telephone & Telegraph Co., official phone and toll service.....
Apr.	30.	75.	To Columbia Ry. Gas & Electric Co., gas consumed.....
Apr.	30.	76.	To Western Union Telephone & Telegraph Co., official telegrams.....
Apr.	30.	77.	To Palmetto Ice Co., ice tickets.....
Apr.	30.	78.	To Jas. A. Hayne, incidental expenses for office.....
May	9.	79.	To Arthur H. Thomas Co., Laboratory supplies.....
May	9.	80.	To H. K. Mulford Co., tetanus antitoxin.....
May	9.	81.	To Mrs. F. J. Schulken, services rendered.....
May	9.	82.	To E. R. Squibb & Sons, diphtheria antitoxin.....
May	17.	83.	To H. K. Mulford Co., antimeaningitis serum.....
May	17.	84.	To E. R. Squibb & Sons, diphtheria antitoxin.....
May	20.	85.	To Murray Drug Co., Laboratory supplies.....
May	20.	86.	To Columbia Seal & Stamp Co., office supplies.....
May	20.	87.	To Lorick & Lowrance, sundries for Laboratory.....
May	20.	88.	To Lederle Antitoxin Laboratories, antimeaningitis serum.....
May	22.	89.	To Lorick & Lowrance, cement for Laboratory.....
May	22.	90.	To The Greenville News Co., printing regulations for the prevention of venereal disease.....
May	22.	91.	To The News and Courier Co., printing regulations for the prevention of venereal disease.....
May	24.	92.	To The State Co., printing regulations for the prevention of venereal disease.....
May	24.	93.	To Columbia Lumber & Mfg. Co., lumber.....
May	25.	94.	To Columbia Seal & Stamp Co., supplies for office at Laboratory.....
May	25.	95.	To The Daggett Printing Co., water analyses record book.....
June	1.	96.	To H. M. Smith, services rendered as extra help at Laboratory.....
June	1.	97.	To M. C. Davis, salary.....
June	1.	98.	To F. B. Johnson, acting director, extra help and incidental expenses..
June	5.	99.	To Western Union Telegraph Co., official telegrams.....
June	5.	100.	To Southern Bell Telephone & Telegraph Co., phone and toll service...
June	5.	101.	To Columbia Ry. Gas & Electric Co., gas consumed.....
June	5.	102.	To Walter T. Love Co., rent of offices.....
June	5.	103.	To Palmetto Ice Co., ice tickets for Laboratory.....
June	5.	104.	To Columbia Lumber & Mfg. Co., lumber.....
June	5.	105.	To Kimble Glass Co., culture tubes.....
June	5.	106.	To Arthur H. Thomas Co., micro slides.....
June	7.	107.	To The Murray Drug Co., glass syringe.....
June	11.	108.	To Union Paper Co., cases.....
June	11.	109.	To Columbia Lumber & Mfg. Co., lumber.....
June	14.	110.	To E. R. Squibb & Sons, diphtheria antitoxin.....
June	17.	111.	To Jas. A. Hayne, M. D., incidental expenses.....
June	22.	112.	To M. J. Walker, M. D., services rendered as special agent in smallpox epidemic.....
June	22.	113.	To Lorick & Lowrance, sundries for Laboratory.....
June	22.	114.	To Columbia Paper Co., wrapping paper.....
June	22.	115.	To J. L. Rainey, hauling.....
June	22.	116.	To E. Michaels, guinea pigs.....
June	22.	117.	To R. L. Bryan Co., printing for Laboratory.....
June	30.	118.	To M. C. Davis, salary.....
June	30.	119.	To H. M. Smith, extra help at Laboratory.....
June	30.	120.	To F. B. Johnson, Acting Director, traveling expenses.....
June	30.	121.	To F. B. Johnson, Acting Director, incidental expenses.....
June	30.	122.	To E. R. Squibb & Sons, typhoid paratyphoid vaccine.....
June	30.	123.	To Royal Mfg. Co., Bal. Earl White Waste.....
July	1.	124.	To Columbia Ry. Gas & Electric Co., gas consumed.....
July	1.	125.	To Southern Bell Telephone & Telegraph Co., toll and official phone service.....
July	1.	126.	To Palmetto Ice Co., ice tickets.....

	Voucher No.		
1918			
July	1. 127.	To Western Union Telegraph Co., official telegrams.....	16 41
July	1. 128.	To Southern Express Co., charges on various packages.....	7 89
July	1. 129.	To Lorick & Lowrance, sundries for Laboratory.....	2 35
July	5. 130.	To H. K. Mulford Co., tetanus antitoxin.....	33 30
July	5. 131.	To E. R. Squibb & Sons, typhoid paratyphoid vaccine.....	202 50
July	5. 132.	To Wingfield's Drug Store, needles for Laboratory.....	2 75
July	6. 133.	To R. L. Bryan Co., record cards, gum labels, etc., for Laboratory...	43 85
July	6. 134.	To Jas. A. Hayne, M. D., incidental expenses.....	25 69
July	6. 135.	To Walter T. Love Co., rent of offices.....	58 00
July	12. 136.	To W. H. Coleman, P. M., postage stamps for Laboratory.....	40 00
July	12. 137.	To Columbia Sign Works, painting sign.....	3 50
July	12. 138.	To The State Co., daters and rubber stamps.....	4 95
July	12. 139.	To Columbia Lumber & Mfg. Co., lumber.....	17 13
July	12. 140.	To H. J. Bassler Co., plumbing supplies and labor.....	3 25
July	12. 141.	To H. K. Mulford Co., tetanus antitoxin.....	48 00
July	13. 142.	To E. R. Squibb & Sons, diphtheria antitoxin.....	331 65
July	13. 143.	To The Herald & News Co., printing quarantine placards.....	8 65
July	31. 144.	To Dr. H. M. Smith, salary.....	100 00
July	31. 145.	To M. C. Davis, salary.....	60 00
July	31. 146.	To Dr. F. B. Johnson, traveling expenses.....	9 27
July	31. 147.	To Dr. F. B. Johnson, incidental expenses, Laboratory.....	49 85
July	31. 148.	To F. O. Winter, Stenographer, Dept. of Venereal Disease Control, services rendered.....	41 65
July	31. 149.	To The Palmetto National Bank, rent of offices.....	58 00
July	31. 150.	To Western Union Telegraph Co., official telegrams.....	15 87
July	31. 151.	To Columbia Ry. Gas & Electric Co., gas consumed.....	13 31
July	31. 152.	To Gibbs Typewriter Shop, overhauling visigraph typewriter.....	8 50
Aug.	1. 153.	To Southern Bell Telephone & Telegraph Co., phone service.....	29 16
Aug.	1. 154.	To Central Drug Co., drugs and Laboratory supplies.....	42 50
Aug.	5. 155.	To The State Co., printing circular letters, Dept. V. D. Control.....	6 00
Aug.	5. 156.	To Palmetto Ice Co., ice tickets.....	9 00
Aug.	5. 157.	To R. L. Bryan Co., printing circulars, Dept. V. D., Control.....	137 85
Aug.	5. 158.	To The Letter Shop, multigraphed letters.....	7 90
Aug.	9. 159.	To Jas. A. Hayne, M. D., incidental expenses.....	38 90
Aug.	15. 160.	To E. R. Squibb & Sons, belated diphtheria antitoxin requisitions dated 1918.....	24 10
Aug.	19. 161.	To Southern Bell Telephone & Telegraph Co., toll calls as approved by Dr. Simpson.....	5 90
Aug.	19. 162.	To Lorick & Lowrance, hammer for Laboratory.....	1 50
Aug.	19. 163.	To J. L. Minnaugh Co., shades and towels for office.....	11 40
Aug.	19. 164.	To Columbia Lumber & Mfg. Co., lumber.....	4 13
Aug.	19. 165.	To Arthur H. Thomas Co., Laboratory supplies.....	128 33
Aug.	21. 166.	To National Vaccine and Antitoxin Institute, diphtheria antitoxin.....	279 85
Aug.	26. 167.	To Murray Drug Co., syringe and needles for Laboratory.....	6 50
Aug.	26. 168.	To The Selig Co., fly oil and sprayers.....	8 25
Aug.	31. 169.	To The Morgan Co., ampoules.....	17 24
Aug.	31. 170.	To Dr. H. M. Smith, salary.....	100 00
Aug.	31. 171.	To M. C. Davis, salary.....	60 00
Aug.	31. 172.	To Lucile Spigener, extra help, services rendered.....	45 00
Aug.	31. 173.	To F. O. Winter, Dept. V. D. Control, salary.....	75 00
Aug.	31. 174.	To Dr. F. B. Johnson, traveling expenses.....	19 42
Sept.	3. 175.	To Southern Bell Telephone & Telegraph Co., official phone and toll services.....	21 29
Sept.	3. 176.	To Southern Bell Telephone & Telegraph Co., official service, Dept. V. D. Control.....	4 05
Sept.	3. 177.	To The State Co., office supplies, Dept. V. D. Control.....	95 50
Sept.	4. 178.	To The Western Union Telegraph Co., official telegrams.....	15 94
Sept.	4. 179.	To Jas. A. Hayne, M. D., incidental expenses.....	35 00
Sept.	4. 180.	To Palmetto Ice Co., ice tickets.....	18 00
Sept.	4. 181.	To W. H. Coleman, P. M., postage stamps for Laboratory.....	40 00
Sept.	5. 182.	To The Palmetto National Bank, rent of offices.....	58 00
Sept.	6. 183.	To W. H. Coleman, P. M., ten thousand 2 cent postals.....	200 00
Sept.	18. 184.	To Jas. R. Cain, Acting Director, incidental expenses.....	58 78
Sept.	19. 185.	To T. P. Glenn, expenses smallpox case of T. R. Franklin.....	94 72
Sept.	30. 186.	To Dr. H. M. Smith, extra work.....	50 00
Sept.	30. 187.	To M. C. Davis, salary.....	60 00
Sept.	30. 188.	To F. O. Winter, Dept. V. D. Control, salary.....	75 00
Sept.	30. 189.	To W. H. Coleman, P. M., stamps for Laboratory.....	40 00
Sept.	30. 190.	To Perry-Mann Electric Co., Majestic Heater.....	10 00
Sept.	30. 191.	To Spencer Lens Co., bulbs, postage and Ins.....	7 66
Sept.	30. 192.	To R. L. Bryan Co., inspection and examination blanks.....	24 50
Sept.	30. 193.	To The State Co., stamped envelopes.....	72 38
Oct.	1. 194.	To J. T. McCaw, printing Dept. Venereal Disease Control.....	31 10
Oct.	1. 195.	To Southern Bell Telephone & Telegraph Co., phone service, Dept. Venereal Disease Control.....	4 05
Oct.	1. 196.	To E. W. Seibels & Sons, rent of offices.....	58 00
Oct.	1. 197.	To Western Union Telegraph Co., official phone services.....	31 47
Oct.	1. 198.	To Columbia Ry. Gas & Electric Co., gas consumed.....	21 50
Oct.	1. 199.	To Jas. R. Cain, Acting Director, incidental expenses.....	38 75
Oct.	1. 200.	To Columbia Office Supply Co., rubber stamps.....	1 20
Oct.	1. 201.	To R. L. Bryan Co., record blanks.....	9 20



Voucher		No.		
1918				
Oct.	1.	202.	To The Letter Shop, multigrapher circulars.....	13 20
Oct.	1.	203.	To Murray Drug Co., needles for Laboratory.....	1 00
Oct.	1.	204.	To R. L. Bryan Co., printing circulars, Dept. Venereal Disease Control...	20 80
Oct.	1.	205.	To Southern Bell Telephone & Telegraph Co., official phone and toll service.....	33 85
Oct.	7.	206.	To H. K. Mulford Co., antimenigitis serum.....	180 00
Oct.	7.	207.	To H. K. Mulford Co., tetanus antitoxin.....	38 00
Oct.	7.	208.	To Hearon's Pharmacy, antimenigitis serum.....	6 00
Oct.	7.	209.	To McGregor Drug Co., drugs.....	10 40
Oct.	7.	210.	To W. H. Coleman, P. M., postage stamps.....	40 00
Oct.	7.	211.	To Palmetto Ice Co., ice tickets.....	18 00
Oct.	7.	212.	To Jas. A. Hayne, M. D., incidental expenses.....	41 20
Oct.	7.	213.	To E. R. Squibb & Sons, smallpox vaccine virus.....	105 40
Oct.	7.	214.	To E. R. Squibb & Sons, diphtheria antitoxin, belated requisitions, dated 1918.....	24 90
Oct.	11.	215.	To W. H. Coleman, P. M., postage stamps, Dept. Venereal Disease Control.....	40 00
Oct.	11.	216.	To E. H. Cone, antimenigitis serum.....	79 80
Oct.	11.	217.	To Arthur H. Thomas Co., Laboratory supplies.....	28 66
Oct.	11.	218.	To The Morgan Co., ampoules.....	29 00
Oct.	11.	219.	To Yankee Wizard Clock Co., clock for Laboratory.....	4 00
Oct.	23.	220.	To The Selig Co., sweeping compound, oil soap, and towels.....	75 52
Oct.	23.	221.	To Columbia Lumber & Mfg. Co., screen mould, and blind strip stock...	2 40
Oct.	23.	222.	To M. J. Miller, Secretary Sinking Fund Commission, Insurance on policy 614, furniture and fixtures.....	8 30
Oct.	29.	223.	To National Vaccine and Antitoxin Institute, smallpox vaccine virus...	908 80
Oct.	29.	224.	To F. O. Winter, Dept. Venereal Disease Control, salary.....	75 00
Oct.	29.	225.	To M. C. Davis, salary.....	60 00
Oct.	29.	226.	To Elizabeth Ayer, extra help at Laboratory.....	50 00
Oct.	29.	227.	To Jas. R. Cain, Acting Director, incidental expenses.....	66 06
Oct.	30.	228.	To The State Co., office supplies, Dept. Venereal Disease Control.....	9 49
Oct.	30.	229.	To J. M. VanMeter, table.....	3 00
Oct.	30.	230.	To A. T. Painter, services rendered as nurse during epidemic at Dale...	50 00
Oct.	30.	231.	To A. T. Painter, traveling expenses during typhoid epidemic at Dale...	28 04
Oct.	31.	232.	To National Vaccine and Antitoxin Institute, typhoid bacterin.....	2,500 00
Oct.	31.	233.	To National Vaccine and Antitoxin Institute, diphtheria antitoxin.....	725 70
Nov.	1.	234.	To E. W. Seibels & Sons, rent of offices.....	58 00
Nov.	1.	235.	To Jas. A. Hayne, M. D., incidental expenses.....	31 83
Nov.	4.	236.	To Columbia Ry. Gas & Electric Co., gas consumed.....	12 87
Nov.	4.	237.	To Southern Bell Telephone & Telegraph Co., phone and toll service...	6 20
Nov.	4.	238.	To Southern Bell Telephone & Telegraph Co., phone and toll service, Dept. Venereal Disease Control.....	4 55
Nov.	4.	239.	To Palmetto Ice Co., ice tickets.....	18 00
Nov.	5.	240.	To The Murray Drug Co., sphygmometre and stethoscope.....	28 50
Nov.	5.	241.	To The R. L. Bryan Co., printing circulars and labels.....	10 30
Nov.	15.	242.	To Southern Bell Telephone & Telegraph Co., phone service.....	4 00
Nov.	16.	243.	To W. H. Coleman, P. M., stamps.....	40 00
Nov.	25.	244.	To Arthur H. Thomas Co., culture dishes.....	25 20
Nov.	25.	245.	To The State Co., printing letter heads.....	9 60
Nov.	25.	246.	To Schieffelin & Co., L. Blood serum culture.....	40 50
Nov.	25.	247.	To Terven-Childs Electric Co., repairing motor, etc.....	3 35
Nov.	30.	248.	To M. C. Davis, salary.....	60 00
Nov.	30.	249.	To Elizabeth W. Ayer, salary.....	50 00
Nov.	30.	250.	To Jas. R. Cain, Acting Director, incidental expenses.....	56 95
Nov.	30.	251.	To F. O. Winter, Dept. Venereal Disease Control, salary.....	75 00
Dec.	4.	252.	To Joint Committee on Printing, Supplies Laboratory and Dr. Hayne's office.....	80 47
Dec.	4.	253.	To The State Company, index cards.....	2 50
Dec.	4.	254.	To Murray Drug Co., two gallons alcohol.....	13 60
Dec.	4.	255.	To Arthur Thomas Company, supplies Laboratory.....	10 02
Dec.	4.	256.	To E. W. Seibels & Son, rent.....	58 00
Dec.	4.	257.	To Western Union Telegraph Co., official telegrams.....	19 79
Dec.	4.	258.	To Postal Telegraph Co., to official telegrams.....	5 72
Dec.	7.	259.	To Southern Bell Telephone & Telegraph Co., phone Nos. 3032 and 2942.....	8 30
Dec.	20.	260.	To Elizabeth W. Ayer, salary.....	75 00
Dec.	20.	261.	To Margaret C. Davis, salary.....	60 00
Dec.	20.	262.	To J. L. Mimnaugh & Co., 12 towels for office.....	1 20
Dec.	21.	263.	To The State Co., Mallory & Wright's Pathological Technic and subscription Journal Infectious Diseases.....	11 55
Dec.	28.	264.	To Joint Committee on Printing, supplies State Board of Health and Laboratory.....	11 69

## FOLLOWING BILLS CONTRACTED IN 1918.

1919.				
Jan.	3.	265.	To Southern Bell Telephone & Telegraph Co., official phone and toll service.....	18 05
Jan.	3.	266.	To Western Union Telegraph Co., official messages.....	44 92
Jan.	3.	267.	To Columbia Ry. Gas & Electric Co., gas consumed at Laboratory....	15 59
Jan.	3.	268.	To Jas. R. Cain, incidental expenses, Laboratory.....	12 53

Voucher			
	No.		
1918			
Jan.	6, 269.	To Columbia Paper Co., twine, etc., Laboratory.....	5 85
Jan.	6, 270.	To Terven-Childs Electric Co., repairing motor and refrigerator,	
		Laboratory .....	12 13
Jan.	7, 271.	To Palmetto Ice Co., ice tickets .....	9 00
Jan.	9, 272.	To Cancelled.....	
Jan.	11, 273.	To E. R. Squibb & Sons, diphtheria antitoxin.....	76 75
Jan.	14, 274.	To Lorick & Lowrance, supplies.....	4 08
Jan.	14, 275.	To National Vaccine and Antitoxin Institute, diphtheria antitoxin and	
		vaccine virus .....	1,407 10
Jan.	18, 276.	To Jas. A. Hayne, incidental expenses for office.....	51 35
Feb.	5, 277.	To Columbia Office Supply Co., typewriter table.....	7 50
Feb.	5, 278.	To Columbia Railway, Gas and Electric Co., heater, tube, hose cock	
		and install piping for incinerator.....	19 70
Feb.	5, 279.	To National Vaccine Institute, ampoules.....	80 00
Feb.	6, 280.	To Southern Express Co., express on various parcels.....	3 23
Feb.	11, 281.	To Lederle Antitoxin Laboratories, Loeffler's blood serum.....	67 50
Feb.	11, 282.	To Murray Drug Co., alcohol and syringe.....	16 00
Appropriation .....			\$19,978 20
Expenditures .....			\$20,000 00
			19,978 20
Balance .....			\$21 80
Outstanding Bills(?) .....			

## BUREAU VITAL STATISTICS.

1918	No.		
Feb.	28, 1.	To C. W. Miller, salary.....	\$ 300 00
Feb.	28, 2.	To P. T. Washington, salary.....	150 00
Feb.	28, 3.	To C. L. Cain, salary.....	120 00
Feb.	28, 4.	To W. H. Coleman, postals and stamped envelopes.....	92 04
Mar.	2, 5.	To Southern Bell Telephone & Telegraph Co., official phone service....	5 25
Mar.	5, 6.	To Southern Bell Telephone & Telegraph Co., official phone service....	4 25
Mar.	5, 7.	To Stanley's China Hall, coler.....	4 98
Mar.	5, 8.	To C. W. Miller, overdue postage and office supplies.....	4 43
Mar.	9, 9.	To The State Co., letterheads.....	5 20
Mar.	10, 10.	To Terven-Childs Electric Co., watt lamp and W-type "B".....	1 05
Mar.	14, 11.	To W. H. Coleman, postage stamps.....	20 00
Mar.	30, 12.	To C. W. Miller, salary.....	150 00
Mar.	30, 13.	To P. T. Washington, salary.....	75 00
Mar.	30, 14.	To C. L. Cain, salary.....	60 00
Mar.	30, 15.	To The Selig Co., paper towels.....	12 50
Mar.	30, 16.	To J. T. McCaw, printing death certificates.....	14 30
Apr.	8, 17.	To Southern Bell Telephone & Telegraph Co., official phone service....	4 80
Apr.	10, 18.	To W. H. Coleman, postage stamps.....	25 00
Apr.	24, 19.	To W. H. Coleman, postals.....	40 00
Apr.	30, 20.	To C. W. Miller, salary.....	150 00
Apr.	30, 21.	To P. T. Washington, salary.....	75 00
Apr.	30, 22.	To C. L. Cain, salary.....	60 00
Apr.	30, 23.	To A. R. Murray, salary.....	70 00
Apr.	30, 24.	To Southern Bell Telephone & Telegraph Co., official phone service....	4 45
Apr.	30, 25.	To Columbia Office Supply Co., office supplies.....	1 55
Apr.	30, 26.	To The Letter Shop, multigraphed letters.....	3 40
Apr.	30, 27.	To R. L. Bryan Co., office supplies .....	1 90
Apr.	30, 28.	To C. W. Miller, overdue postage, trip to Lexington, ink well, shade..	2 95
May	22, 29.	To W. H. Coleman, P. M., postage stamps.....	25 00
May	25, 30.	To J. T. McCaw, office supplies and printing certificates.....	43 50
June	1, 31.	To C. W. Miller, salary.....	150 00
June	1, 32.	To P. T. Washington, salary.....	75 00
June	1, 33.	To Charlotte Cain, salary.....	60 00
June	1, 34.	To A. R. Murray, salary.....	60 00
June	1, 35.	To J. T. McCaw, printing certificates, index cards, etc.....	185 05
June	5, 36.	To Southern Bell Telephone & Telegraph Co., phone and toll service....	4 05
June	5, 37.	To C. W. Miller, overdue postage, fly killers.....	1 15
June	7, 38.	To Underwood Typewriter Co., coupon book.....	5 00
June	10, 39.	To J. T. McCaw, printing certificates and index cards.....	130 20
June	21, 40.	To The State Co., envelopes, stamped.....	94 32
June	30, 41.	To C. W. Miller, salary.....	150 00
June	30, 42.	To P. T. Washington, salary.....	75 00
June	30, 43.	To Charlotte Cain, salary.....	60 00
June	30, 44.	To Allie Murray, salary.....	60 00
June	30, 45.	To The State Co., printing letter heads.....	14 00
July	1, 46.	To The Southern Bell Telephone & Telegraph Co., phone and toll	
		service .....	4 10
July	1, 47.	To The Palmetto Ice Co., ice tickets.....	1 00
July	1, 48.	To C. W. Miller, overdue postage.....	1 00
July	10, 49.	To W. H. Coleman, P. M., postage stamps.....	25 00
July	31, 50.	To Charlotte Cain, salary.....	60 00
July	31, 51.	To C. W. Miller, salary.....	150 00
July	31, 52.	To P. T. Washington, salary.....	75 00



Voucher		No.		
1918				
July	31.	53.	To Allie Murray, salary.....	60 00
July	31.	54.	To The Palmetto Ice Co., ice tickets.....	2 00
Aug.	1.	55.	To Southern Bell Telephone & Telegraph Co., phone and toll service...	5 10
Aug.	1.	56.	To J. T. McCaw, binding certificates, clasp envelopes.....	105 05
Aug.	5.	57.	To R. L. Bryan Co., numbering machine.....	5 00
Aug.	5.	58.	To The Selig Co., Lily cups.....	10 00
Aug.	9.	59.	To W. H. Coleman, P. M., postage stamps.....	20 00
Aug.	9.	60.	To C. W. Miller, overdue postage and express on sanitary cups.....	2 08
Aug.	31.	61.	To C. W. Miller, salary.....	150 00
Aug.	31.	62.	To P. T. Washington, salary.....	75 00
Aug.	31.	63.	To Charlotte Cain, salary.....	60 00
Aug.	31.	64.	To Allie Murray, salary.....	60 00
Aug.	31.	65.	To Columbia Office Supply Co., office supplies.....	7 00
Sept.	3.	66.	To Southern Bell Telephone & Telegraph Co., phone and toll service...	4 10
Sept.	6.	67.	To W. H. Coleman, P. M., postals.....	40 00
Sept.	13.	68.	To W. H. Coleman, P. M., stamps.....	25 00
Sept.	30.	69.	To P. T. Washington, salary.....	75 00
Sept.	30.	70.	To C. W. Miller, overdue postage, ink well and repairing fuse plugs...	1 80
Sept.	30.	71.	To Allie Murray, salary.....	60 00
Sept.	30.	72.	To Charlotte Cain, salary.....	60 00
Sept.	30.	73.	To C. W. Miller, salary.....	150 00
Oct.	1.	74.	To J. T. McCaw, binding certificates, and printing postals.....	37 20
Oct.	1.	75.	To Southern Bell Telephone & Telegraph Co., phone and toll service...	4 25
Oct.	23.	76.	To J. T. McCaw, binding certificates.....	15 40
Oct.	29.	77.	To Allie Murray, salary.....	60 00
Oct.	29.	78.	To P. T. Washington, salary.....	75 00
Oct.	29.	79.	To C. W. Miller, salary.....	150 00
Oct.	29.	80.	To Charlotte Cain, salary.....	60 00
Nov.	4.	81.	To Southern Bell Telephone & Telegraph Co., phone and toll service...	4 50
Nov.	4.	82.	To C. W. Miller, overdue postage, rubber stamp and ink well.....	2 60
Nov.	7.	83.	To W. H. Coleman, P. M., postage stamps.....	30 00
Nov.	8.	84.	To A. R. Murray, services rendered.....	18 00
Nov.	30.	85.	To C. W. Miller, salary.....	150 00
Nov.	30.	86.	To P. T. Washington, salary.....	75 00
Nov.	30.	87.	To Margaret Lindsay, salary.....	60 00
Nov.	30.	88.	To Mary Currell, salary.....	60 00
Dec.	4.	89.	To Southern Bell Telephone & Telegraph Co., phone and toll service...	4 90
Dec.	4.	90.	To The Letter Shop, multigraphed letters.....	2 85
Dec.	4.	91.	To Joint Committee on Printing, supplies for office.....	16 99
Dec.	10.	92.	To C. W. Miller, for overdue postage.....	2 98
Dec.	20.	93.	To Mary Currell, salary December.....	40 00
Dec.	17.	94.	To W. H. Coleman, Postmaster, 2,000 double post cards.....	40 00
Dec.	17.	95.	To John McCaw, printing.....	41 00
Dec.	20.	96.	To C. W. Miller, salary December.....	150 00
Dec.	20.	97.	To P. T. Washington, salary December.....	75 00
Dec.	20.	98.	To Margaret Lindsay, salary December.....	60 00
Dec.	20.	99.	To Tervon-Childs Electric Co., 4-60 Watt Lamps.....	1 40
Dec.	23.	100.	To The State Co., 2,000 envelopes stamped.....	33 94
Dec.	31.	101.	To W. H. Coleman, Postmaster, stamps.....	75 00

## FOLLOWING BILLS CONTRACTED IN 1918.

1919.				
Jan.	3.	102.	To Columbia Office Supply Co., supplies.....	1 25
Jan.	3.	103.	To Tervon-Childs Electric Co., 6-75 Watt C Lamps.....	4 20
Jan.	3.	104.	To J. L. Mimnaugh & Co., 28 inches felt.....	2 75
Jan.	4.	105.	To C. W. Miller, overdue postage.....	1 86
Jan.	6.	106.	To The State Co., writing fluid, red ink, and box pins.....	2 55
Jan.	9.	107.	To Southern Bell Telephone and Tel. Co., official phone service.....	4 05
Jan.	9.	108.	To Burroughs Adding Machine Co., attention to machine.....	4 58
Jan.	11.	109.	To C. W. Miller, post cards.....	4 00
Jan.	14.	110.	To The Letter Shop, multigraphed letters.....	7 35
Jan.	14.	111.	To The State Co., letterheads.....	4 95
Jan.	17.	112.	To J. T. McCaw, supplies.....	356 75
Jan.	20.	113.	To C. W. Miller, post cards.....	2 00
Feb.	19.	114.	To J. M. Green, M. D., transcripts of birth and death certificates for November lost by Express Company.....	32 00

Appropriation .....	\$5,738 05
Expenditures .....	\$6,000 00
Balance .....	5,738 05
Outstanding Bills (?) .....	\$261 95

Voucher		No.		
1918				
Mar.	30.	1.	To L. A. Riser, salary.....	\$ 208 83
Mar.	30.	2.	To E. W. Grieshaber, salary.....	75 00
Mar.	30.	3.	To Canceled .....	
Mar.	30.	4.	To Canceled .....	
Apr.	2.	5.	To W. A. Washington, salary.....	44 50

	Voucher			
1918	No.			
Apr.	2.	6.	To C. H. Verner, traveling expenses.....	57 75
Apr.	2.	7.	To C. H. Verner, salary.....	122 87
Apr.	2.	8.	To C. H. Verner, office expenses.....	3 50
Apr.	2.	9.	To B. H. Garner, salary.....	50 80
Apr.	2.	10.	To R. H. Folk, salary.....	166 66
Apr.	2.	11.	To J. C. Bryant, salary.....	26 00
Apr.	2.	12.	To B. M. Davis, salary.....	45 00
Apr.	2.	13.	To R. H. Folk, traveling expenses.....	74 10
Apr.	2.	14.	To M. C. Brabham, salary.....	40 00
Apr.	2.	15.	To V. W. Brabham, salary.....	175 00
Apr.	2.	16.	To Mrs. A. Fields, salary.....	48 50
Apr.	2.	17.	To W. A. Washington, salary.....	31 50
Apr.	3.	18.	To V. B. Brabham, salary and expenses.....	77 00
Apr.	3.	19.	To Jas. P. Doyle, salary.....	100 00
Apr.	3.	20.	To F. A. Schiffler, salary.....	100 00
Apr.	3.	21.	To M. B. Davis, salary.....	31 50
Apr.	3.	22.	To F. M. Ruth, traveling expenses.....	89 50
Apr.	3.	23.	To C. T. Bloom, salary.....	100 00
Apr.	3.	24.	To F. M. Ruth, salary.....	100 00
Apr.	3.	25.	To R. C. Roof, salary.....	85 00
Apr.	3.	26.	To W. F. Trasher, salary.....	75 00
Apr.	3.	27.	To C. A. Fant, salary.....	75 00
Apr.	3.	28.	To A. R. Sanford, salary.....	75 00
Apr.	3.	29.	To C. S. Farris, salary.....	75 00
Apr.	3.	30.	To L. A. Riser, traveling expenses.....	71 17
Apr.	30.	31.	To L. A. Riser, salary.....	208 33
Apr.	30.	32.	To E. W. Grieshaber, salary.....	75 00
Apr.	30.	33.	To Jas. P. Doyle, salary.....	100 00
Apr.	30.	34.	To F. A. Shiffler, salary.....	100 00
Apr.	30.	35.	To Mrs. A. Fields, salary.....	190 00
Apr.	30.	36.	To V. W. Brabham, salary.....	175 00
Apr.	30.	37.	To R. H. Folk, salary.....	166 66
Apr.	30.	38.	To B. M. Davis, salary.....	75 00
Apr.	30.	39.	To J. C. Bryant, salary.....	70 00
Apr.	30.	40.	To E. L. Derrick, salary.....	18 00
Apr.	30.	41.	To A. J. Hill, salary.....	50 00
Apr.	30.	42.	To R. H. Folk, traveling expenses.....	75 00
Apr.	30.	43.	To C. H. Verner, salary.....	166 66
Apr.	30.	44.	To C. H. Verner, traveling expenses.....	75 00
Apr.	30.	45.	To B. H. Garner, salary.....	75 00
Apr.	30.	46.	To Will Garner, salary.....	72 00
Apr.	30.	47.	To N. S. Hamner, salary.....	56 66
Apr.	30.	48.	To Spencer Brunson, salary.....	30 00
Apr.	30.	49.	To F. M. Ruth, salary.....	175 00
Apr.	30.	50.	To F. M. Ruth, traveling expenses.....	65 50
Apr.	30.	51.	To C. A. Fant, salary.....	67 50
Apr.	30.	52.	To C. S. Farris, salary.....	75 00
Apr.	30.	53.	To C. T. Bloom, salary.....	100 00
Apr.	30.	54.	To V. B. Brabham, traveling expenses.....	75 75
Apr.	30.	55.	To L. A. Riser, traveling expenses.....	79 63
May	20.	56.	To The State Co., printing letter heads.....	24 50
June	1.	57.	To E. W. Grieshaber, salary.....	75 00
June	1.	58.	To L. A. Riser, salary.....	208 33
June	1.	59.	To V. W. Brabham, salary.....	175 00
June	1.	60.	To J. P. Doyle, salary.....	100 00
June	1.	61.	To Mrs. A. Fields, salary.....	100 00
June	1.	62.	To F. A. Schiffler, salary.....	100 00
June	1.	63.	To R. H. Folk, traveling expenses.....	75 00
June	1.	64.	To A. J. Hill, salary.....	100 00
June	1.	65.	To J. C. Bryant, salary.....	90 00
June	1.	66.	To B. M. Davis, salary.....	100 00
June	1.	67.	To R. H. Folk, salary.....	166 66
June	1.	68.	To C. H. Verner, salary.....	166 66
June	1.	69.	To C. H. Verner, traveling expenses.....	75 00
June	1.	70.	To A. R. Nicholson, salary.....	100 00
June	1.	71.	To Nora Spencer, salary.....	100 00
June	1.	72.	To B. H. Garner, salary.....	75 00
June	1.	73.	To Chester Lighty, salary.....	75 00
June	1.	74.	To Spencer Brunson, salary.....	70 00
June	1.	75.	To F. M. Routh, salary.....	175 00
June	1.	76.	To F. M. Routh, traveling expenses.....	75 50
June	1.	77.	To C. T. Bloom, salary.....	100 00
June	1.	78.	To R. C. Roof, salary.....	85 00
June	1.	79.	To Chas. S. Faris, salary.....	75 00
June	1.	80.	To V. W. Brabham, traveling expenses.....	60 23
June	22.	81.	To Habenicht-McDougall Co., Prest-O-Lite.....	1 25
June	30.	82.	To E. W. Grieshaber, salary.....	75 00
June	30.	83.	To L. A. Riser, salary.....	208 33
June	30.	84.	To L. A. Riser, traveling expenses.....	121 72
June	30.	85.	To R. H. Folk, salary.....	166 66
June	30.	86.	To R. H. Folk, traveling expenses.....	75 00



Voucher		No.		
1918				
June	30.	87.	To A. J. Hill, salary.....	100 00
June	30.	88.	To B. M. Davis, salary.....	100 00
June	30.	89.	To J. P. Derrick, salary.....	75 00
June	30.	90.	To V. W. Brabham, salary.....	175 00
June	30.	91.	To V. W. Brabham, traveling expenses.....	69 25
June	30.	92.	To J. P. Doyle, salary.....	100 00
June	30.	93.	To Mrs. A. Fields, salary.....	100 00
June	30.	94.	To F. A. Schiffley, salary.....	100 00
June	30.	95.	To F. M. Routh, salary.....	175 00
June	30.	96.	To F. M. Routh, traveling expenses.....	77 50
June	30.	97.	To R. C. Roof, salary.....	100 00
June	30.	98.	To C. T. Bloom, salary.....	100 00
June	30.	99.	To C. E. Faris, salary.....	75 00
June	30.	100.	To C. H. Verner, salary.....	166 66
June	30.	101.	To C. H. Verner, traveling expenses.....	75 00
June	30.	102.	To A. R. Nicholson, salary.....	125 00
June	30.	103.	To N. S. Hamner, salary.....	100 00
June	30.	104.	To Will Garner, salary.....	75 00
June	30.	105.	To T. B. Chambers, salary.....	75 00
June	30.	106.	To Sam Jackson, salary.....	65 00
Aug.	30.	107.	To F. M. Routh, salary.....	175 00
Aug.	30.	108.	To F. M. Routh, traveling expenses.....	71 17
Aug.	31.	109.	To R. J. Hill, salary.....	100 00
Aug.	31.	110.	To L. C. Mack, salary.....	75 00
Aug.	31.	111.	To L. A. Riser, salary.....	208 33
Aug.	31.	112.	To L. A. Riser, traveling expenses.....	70 08
Aug.	31.	113.	To V. W. Brabham, salary.....	175 00
Aug.	31.	114.	To Mary Brabham, salary.....	50 00
Aug.	31.	115.	To Mrs. A. Fields, salary.....	100 00
Aug.	31.	116.	To J. P. Doyle, salary.....	100 00
Aug.	31.	117.	To V. W. Brabham, traveling expenses.....	87 50
Aug.	31.	118.	To C. H. Verner, salary.....	166 66
Aug.	31.	119.	To C. H. Verner, traveling expenses.....	87 47
Aug.	31.	120.	To N. S. Hamner, salary.....	100 00
Aug.	31.	121.	To A. R. Nicholson, salary.....	125 00
Aug.	31.	122.	To C. T. Bloom, salary.....	100 00
Aug.	31.	123.	To R. C. Roof, salary.....	100 00
Sept.	5.	124.	To E. W. Grieshaber, salary.....	75 00
Sept.	12.	125.	To R. H. Folk, for fifteen days, salary.....	83 85
Sept.	24.	126.	To R. H. Folk, traveling expenses for one half month.....	37 50
Sept.	30.	127.	To E. W. Grieshaber, salary.....	100 00
Sept.	30.	128.	To J. P. Doyle, salary.....	110 00
Sept.	30.	129.	To Mrs. A. Fields, salary.....	100 00
Sept.	30.	130.	To H. T. Schiffley, salary.....	85 00
Sept.	30.	131.	To V. W. Brabham, salary.....	208 33
Sept.	30.	132.	To V. W. Brabham, traveling expenses.....	66 87
Sept.	30.	133.	To W. L. Bodie, salary.....	30 00
Sept.	30.	134.	To L. C. Mack, salary.....	75 00
Sept.	30.	135.	To A. J. Hill, salary.....	100 00
Sept.	30.	136.	To K. L. Able, salary.....	166 66
Sept.	30.	137.	To R. C. Roof, salary.....	100 00
Sept.	30.	138.	To C. T. Bloom, salary.....	100 00
Sept.	30.	139.	To C. H. Verner, salary.....	166 66
Sept.	30.	140.	To C. H. Verner, traveling expenses.....	75 90
Sept.	30.	141.	To A. R. Nicholson, salary.....	125 00
Sept.	30.	142.	To N. S. Hamner, salary.....	100 00
Sept.	30.	143.	To K. L. Able, traveling expenses.....	78 05
Oct.	31.	144.	To C. H. Verner, salary, and traveling expenses.....	247 21
Nov.	5.	145.	To V. H. Brabham, traveling expenses.....	102 24
Nov.	5.	146.	To K. L. Able, traveling expenses.....	73 75
Dec.	20.	147.	To V. W. Brabham, salary.....	208 00
Dec.	20.	148.	To J. P. Doyle, salary.....	125 00

\$14,479 78

Appropriation .....	\$14,500 00
Expenditures .....	14,479 78

Balance .....	\$20 22
Outstanding Bills (?) .....	

## MAINTENANCE S. C. TUBERCULOSIS SANATORIUM.

Feb.	28.	1.	To Annie I. Rembert, salary.....	\$ 316 66
Feb.	28.	2.	To Ernest Cooper, salary.....	333 32
Feb.	28.	3.	To Clara Wood, salary.....	100 00
Feb.	28.	4.	To A. T. Painter, salary.....	120 00
Feb.	28.	5.	To Wm. Adams, salary.....	60 00
Feb.	28.	6.	To Wm. Williams, salary.....	60 00
Feb.	28.	7.	To Alex Lewis, salary.....	40 00
Feb.	28.	8.	To Corrie Bell, salary.....	20 00
Feb.	28.	9.	To Etta Bell, salary.....	20 00

## Voucher

1918	No.		
Feb.	28. 10.	To Geo. Hemphill, salary.....	54 00
Feb.	28. 11.	To Percy Adams, salary.....	33 75
Feb.	28. 12.	To A. T. Painter, refund for laundry service.....	6 75
Mar.	1. 13.	To Southern States Supply Co., plumbing fixtures for repairs.....	116 72
Mar.	1. 14.	To The Texas Co., crystalite and gasoline.....	44 40
Mar.	1. 15.	To Southern Bell Telephone & Telegraph Co., phone service.....	10 34
Mar.	1. 16.	To Lorick & Lowrance, groceries for use at sanatorium.....	390 85
Mar.	5. 17.	To Southern Bell Telephone & Telegraph Co., phone service.....	10 09
Mar.	7. 18.	To The Texas Co., crystalite, gasoline, gas engine oil.....	50 10
Mar.	7. 19.	To Murray Drug Co., drugs.....	5 40
Mar.	19. 20.	To Murray Drug Co., drugs.....	5 25
Mar.	26. 21.	To Cope's Auto Transfer, auto hire to sanatorium for sub-committee.....	16 00
Mar.	30. 22.	To Annie I. Rembert, salary.....	158 33
Mar.	30. 23.	To Ernest Cooper, salary.....	166 66
Mar.	30. 24.	To A. T. Painter, salary.....	60 00
Mar.	30. 25.	To Clara Wood, salary.....	50 00
Mar.	30. 26.	To Alex Lewis, salary.....	20 00
Mar.	30. 27.	To Wm. Adams, salary.....	30 00
Mar.	30. 28.	To Wm. Williams, salary.....	30 00
Mar.	30. 29.	To Geo. Hemphill, salary.....	30 00
Mar.	30. 30.	To Percy Adams, salary.....	20 00
Mar.	30. 31.	To Corrie Bell, salary.....	10 00
Mar.	30. 32.	To Etta Bell, salary.....	10 00
Apr.	23. 33.	To Kny-Scheerer Corp'n., sputum cup holders.....	23 47
Apr.	23. 34.	To The Texas Co., crystalite and gasoline.....	41 11
Apr.	23. 35.	To The Selig Co., floor dressing and roach doom.....	60 56
Apr.	23. 36.	To Ostermoor & Co., feather pillows.....	38 14
Apr.	23. 37.	To Capital City Laundry & Dye Works, laundry service.....	17 68
Apr.	23. 38.	To Southern Bell Telephone & Telegraph Co., phone service.....	12 01
Apr.	23. 39.	To Luther O. Draper Shade Co., shades.....	120 03
Apr.	23. 40.	To Murray Drug Co., bird seed and sulphate.....	5 95
Apr.	23. 41.	To The Surgical Selling Co., thermometers.....	34 26
Apr.	23. 42.	To Southern States Supply Co., S-traps.....	8 00
Apr.	24. 43.	To H. W. Baker Linen Co., blankets.....	250 38
Apr.	30. 44.	To Annie I. Rembert, salary.....	158 33
Apr.	30. 45.	To Ernest Cooper, salary.....	166 66
Apr.	30. 46.	To A. T. Painter, salary.....	60 00
Apr.	30. 47.	To Julia Wood, salary.....	55 00
Apr.	30. 48.	To Carrie Spivey, salary.....	75 00
Apr.	30. 49.	To Ethel Bradshaw, salary.....	5 00
Apr.	30. 50.	To Wm. Adams, salary.....	30 00
Apr.	30. 51.	To Wm. Williams, salary.....	30 00
Apr.	30. 52.	To Geo. Hemphill, salary.....	30 00
Apr.	30. 53.	To Alex Lewis, salary.....	22 50
Apr.	30. 54.	To Percy Adams, salary.....	20 00
Apr.	30. 55.	To Etta Bell, salary.....	10 00
Apr.	30. 56.	To Corrie Bell, salary.....	10 00
Apr.	30. 57.	To Clara Williams, salary.....	10 00
Apr.	30. 58.	To A. T. Painter, refund for laundry service.....	6 75
Apr.	30. 59.	To Southern Bell Telephone & Telegraph Co., phone service.....	10 64
May	14. 60.	To Rhoads & Co., spreads, towels, cases, mattress.....	188 84
May	14. 61.	To J. M. VanMetre, furniture.....	69 00
May	15. 62.	To Standard Oil Co., motor gasoline.....	3 90
May	20. 63.	To R. L. Bryan Co., subscriptions to magazines, etc.....	22 75
May	20. 64.	To Clinchfield Fuel Co., coal and freight.....	253 32
May	20. 65.	To Murray Drug Co., drugs.....	23 67
May	22. 66.	To The R. L. Bryan Co., ledger and stationery.....	4 10
May	25. 67.	To J. T. McCaw, letter heads.....	3 50
June	1. 68.	To A. I. Rembert, salary.....	158 33
June	1. 69.	To Ernest Cooper, salary.....	166 66
June	1. 70.	To W. R. Claytor, salary.....	110 00
June	1. 71.	To A. T. Painter, salary.....	60 00
June	1. 72.	To Carrie Spivey, salary.....	60 00
June	1. 73.	To Julia Wood, salary.....	50 00
June	1. 74.	To Wm. Adams, salary.....	30 00
June	1. 75.	To Wm. Williams, salary.....	30 00
June	1. 76.	To Geo. Hemphill, salary.....	30 00
June	1. 77.	To Alex Lewis, salary.....	22 50
June	1. 78.	To Percy Adams, salary.....	20 00
June	1. 79.	To Corrie Bell, salary.....	12 00
June	1. 80.	To Etta Bell, salary.....	12 00
June	1. 81.	To Ethel Bradshaw, salary.....	10 00
June	1. 82.	To Pearl Leitzsey, salary.....	10 00
June	1. 83.	To Clara Williams, salary.....	10 00
June	3. 84.	To Lorick & Lowrance, groceries.....	397 01
June	3. 85.	To Murray Drug Co., drugs.....	38 73
June	5. 86.	To Southern Bell Telephone & Telegraph Co., toll and phone service.....	11 58
June	10. 87.	To The Texas Co., crystalite, gasoline.....	64 84
June	10. 88.	To Lorick & Lowrance, groceries.....	407 12
June	11. 89.	To Frank S. Betz Co., medical supplies.....	14 00



		Voucher			
		No.			
1918	June	21.	90.	To Perry-Mann Electric Co., rent of Delcolights, and Pyrene Ex-	
				tinguishers	53 20
June	22.	91.	To The Texas Co., gasoline		14 46
June	22.	92.	To The Murray Drug Co., drugs		34 81
June	25.	93.	To The Texas Co., gasoline		13 23
June	25.	94.	To Standard Oil Co., Aladdin oil		9 10
June	30.	95.	To Ernest Cooper, salary		166 66
June	30.	96.	To W. R. Claytor, salary		110 00
June	30.	97.	To Carrie Spivey, salary		60 00
June	30.	98.	To Julia Wood, salary		50 00
June	30.	99.	To Wm. Adams, salary		30 00
June	30.	100.	To Wm. Williams, salary		30 00
June	30.	101.	To Geo. Hemphill, salary		30 00
June	30.	102.	To Percy Adams, salary		20 00
June	30.	103.	To Etta Bell, salary		12 00
June	30.	104.	To Clara Williams, salary		12 00
June	30.	105.	To Pearl Leitzsey, salary		10 00
June	30.	106.	To Ethel Bradshaw, salary		10 00
June	30.	107.	To Ruby Davis, salary		10 00
June	30.	108.	To Emma LeGrand, salary		10 00
June	30.	109.	To Kate Martin, services rendered		7 60
June	30.	110.	To A. Rembert, salary		158 33
July	1.	111.	To Standard Oil Co., motor gasoline		56 98
July	1.	112.	To The Cudahy Packing Co., supplies		67 13
July	5.	113.	To Southern Bell Telephone & Telegraph Co., toll and phone service		10 99
July	5.	114.	To Stanley's China Hall, dishes for table use		68 66
July	6.	115.	To J. B. Campbell, work on pump, at Sanatorium		136 00
July	31.	116.	To A. I. Rembert, salary		158 33
July	31.	117.	To Ernest Cooper, salary		166 66
July	31.	118.	To W. R. Claytor, salary		110 00
July	31.	119.	To Julia Wood, salary		50 00
July	31.	120.	To Carrie Spivey, salary		60 00
July	31.	121.	To Wm. Williams, salary		30 00
July	31.	122.	To Wm. Adams, salary		30 00
July	31.	123.	To Etta Bell, salary		12 00
July	31.	124.	To Olive Chitty, services rendered		11 35
July	31.	125.	To Ethel Bradshaw, salary		10 00
July	31.	126.	To Pearl Leitzsey, salary		10 00
July	31.	127.	To Ruby Davis, salary		10 00
July	31.	128.	To Emma LeGrand, salary		10 00
July	31.	129.	To Kate Martin, salary		10 00
July	31.	130.	To S. A. Cotton, salary		3 00
July	31.	131.	To Southern Bell Telephone & Telegraph Co., phone and toll service		10 62
Aug.	5.	132.	To B. C. Electric Co., Watt Mazdas		30 50
Aug.	5.	133.	To The Surgical Selling Co., thermometers		51 28
Aug.	5.	134.	To The Kny-Schuru Corporation		16 25
Aug.	19.	135.	To Julia Wood, salary		28 70
Aug.	19.	136.	To The Selig Co., towels, cabinet and paper napkins		205 00
Aug.	19.	137.	To Globe Dry Goods Co., dishes, etc		51 90
Aug.	19.	138.	To Clinchfield Fuel Co., freight on car load of coal		140 00
Aug.	26.	139.	To Globe Dry Goods Co., glasses and sea island		24 45
Aug.	31.	140.	To Ernest Cooper, salary		166 66
Aug.	31.	141.	To W. R. Claytor, salary		110 00
Aug.	31.	142.	To Carrie Spivey, salary		60 00
Aug.	31.	143.	To Wm. Williams, salary		30 00
Aug.	31.	144.	To Wm. Adams, salary		30 00
Aug.	31.	145.	To Clara Wood, salary		25 00
Aug.	31.	146.	To Addie Cotton, salary		20 00
Aug.	31.	147.	To Ruby Davis, salary		10 00
Aug.	31.	148.	To Emma LeGrand, salary		10 00
Aug.	31.	149.	To Pearl Leitzsey, salary		10 00
Aug.	31.	150.	To Jessie Jackson, services rendered		8 25
Aug.	31.	151.	To Kate Martin, salary		10 00
Aug.	31.	152.	To Mina Bell, salary		8 00
Aug.	31.	153.	To Olive Chitty, salary		5 00
Aug.	31.	154.	To Minerva Archie, salary		6 00
Aug.	31.	155.	To A. I. Rembert, salary		158 33
Sept.	4.	156.	To Standard Oil Co., oil and gasoline		61 08
Sept.	5.	157.	To Southern Bell Telephone & Telegraph Co., phone service and toll		11 66
Sept.	5.	158.	To Southern States Supply Co., plumbing supplies		4 03
Sept.	30.	159.	To Emma LeGrand, salary		10 00
Sept.	30.	160.	To Ruby Davis, salary		10 00
Sept.	30.	161.	To Jessie Jackson, salary		10 00
Sept.	30.	162.	To Pearl Leitzsey, salary		10 00
Sept.	30.	163.	To Wm. Adams, salary		30 00
Sept.	30.	164.	To Mrs. Addie Cotton, salary		20 00
Sept.	30.	165.	To Sallie Howell, salary		20 00
Sept.	30.	166.	To Clara Wood, salary		50 00
Sept.	30.	167.	To Carrie Spivey, salary		60 00
Sept.	30.	168.	To W. R. Claytor, salary		110 00

Voucher			
1918	No.		
Sept.	30. 169.	To Ernest Cooper, salary.....	166 66
Sept.	30. 170.	To Jas. Brown, salary.....	25 00
Sept.	30. 171.	To Mina Bell, salary.....	8 00
Sept.	30. 172.	To A. I. Rembert, salary.....	158 33
Sept.	30. 173.	To Lorick & Lowrance, groceries.....	307 79
Oct.	1. 174.	To Southern Bell Telephone & Telegraph Co., phone and toll service....	11 28
Oct.	7. 175.	To J. T. McCaw, printing examination forms.....	7 75
Oct.	14. 176.	To Standard Oil Co., oil and gasoline.....	18 75
Oct.	14. 177.	To The Surgical Selling Co., clinical thermometers.....	9 11
Oct.	23. 178.	To The Standard Oil Co., Aladdin oil and motor gasoline.....	15 53
Oct.	25. 179.	To Lorick & Lowrance, groceries.....	842 95
Oct.	26. 180.	To W. E. Carter, part payment on contract, cow barn.....	70 00
Oct.	30. 181.	To A. I. Rembert, salary.....	158 33
Oct.	31. 182.	To Ernest Cooper, salary.....	166 66
Oct.	31. 183.	To W. R. Claytor, salary.....	110 00
Oct.	31. 184.	To Mina Bell, salary.....	8 00
Oct.	31. 185.	To Katherine Green, salary.....	15 00
Oct.	31. 186.	To Jim Brown, salary.....	25 00
Oct.	31. 187.	To L. V. Robinson, services rendered.....	4 50
Oct.	31. 188.	To Frances Tramwell, services rendered.....	7 10
Oct.	31. 189.	To S. A. Cotton, services rendered.....	9 70
Oct.	31. 190.	To Ruby Davis, salary.....	10 00
Nov.	1. 191.	To Pearl Leitzsey, salary.....	10 00
Nov.	1. 192.	To Jessie Jackson, salary.....	10 00
Nov.	1. 193.	To Emma LeGrand, salary.....	10 00
Nov.	1. 194.	To Annie Sing, services rendered.....	22 00
Nov.	1. 195.	To Wm. Adams, salary.....	30 00
Nov.	1. 196.	To Clara Wood, salary.....	50 00
Nov.	1. 197.	To Carrie Spivey, salary.....	60 00
Nov.	5. 198.	To Clinchfield Fuel Co., freight on car of coal.....	140 00
Nov.	5. 199.	To Southern Bell Telephone & Telegraph Co., phone and toll service..	11 38
Nov.	5. 200.	To The Selig Co., disinfectant-drum.....	72 50
Nov.	15. 201.	To Southern Scale & Fixture Co., balance on refrigerators.....	205 88
Nov.	25. 202.	To Lorick & Lowrance, supplies.....	357 81
Nov.	25. 203.	To Capital City Steam Laundry & Dye Works, laundry service.....	177 30
Nov.	30. 204.	To A. I. Rembert, salary.....	158 33
Nov.	30. 205.	To Ernest Cooper, salary.....	166 66
Nov.	30. 206.	To W. R. Claytor, salary.....	110 00
Nov.	30. 207.	To Carrie Spivey, salary.....	60 00
Nov.	30. 208.	To Pearl Leitzsey, salary.....	10 00
Nov.	30. 209.	To Jessie Jackson, salary.....	10 00
Nov.	30. 210.	To Emma LeGrand, salary.....	10 00
Nov.	30. 211.	To Ruby Davis, salary.....	10 00
Nov.	30. 212.	To Clara Wood, salary.....	50 00
Nov.	30. 213.	To Annie Sing, salary.....	20 00
Nov.	30. 214.	To L. V. Robinson, salary.....	20 00
Nov.	30. 215.	To Wm. Adams, salary.....	30 00
Nov.	30. 216.	To Jim Brown, salary.....	25 00
Nov.	30. 217.	To Mina Bell, salary.....	8 00
Dec.	2. 218.	To Katherine Green, services rendered.....	3 50
Dec.	2. 219.	To Minerva Archer, services rendered.....	6 00
Dec.	2. 220.	To Robert June, services rendered.....	8 00
Dec.	2. 221.	To Rosie June, services rendered.....	6 00
Dec.	2. 222.	To Arthur Warren, services rendered.....	12 00
Dec.	2. 223.	To Nellie Warren, services rendered.....	12 00
Dec.	2. 224.	To Maurice Warren, services rendered.....	12 00
Dec.	2. 225.	To The Selig Co., toilet tissue.....	185 00
Dec.	4. 226.	To The Murray Drug Co., thermometers, menthol crystals, guaiacol carbonate.....	33 80
Dec.	6. 227.	To Southern Bell Telephone & Telegraph Co., phone service.....	9 79
Dec.	6. 228.	To Globe Dry Goods Co., supplies.....	339 28
Dec.	20. 229.	To Clara Wood, salary.....	50 00
Dec.	20. 230.	To Carrie Spivey, salary.....	60 00
Dec.	20. 231.	To W. R. Claytor, M. D., salary.....	110 00
Dec.	20. 232.	To Ernest Cooper, M. D., salary.....	166 66
Dec.	20. 233.	To Nurses and Servants, salary.....	213 00
Dec.	20. 234.	To Lea V. Robinson, salary.....	10 00
Dec.	20. 235.	To Murray Drug Company.....	22 91
Dec.	21. 236.	To Clinchfield Fuel Co., 2 cars coal.....	233 46
Dec.	24. 237.	To Annie I. Rembert, salary.....	158 33

## FOLLOWING BILLS CONTRACTED IN 1918.

1919.			
Jan.	6, 238.	To Southern Bell Tel. and Tel. Co., phone and toll service.....	13 51
Appropriation .....			\$14,973 75
Expenditures .....			\$15,000 00
			<u>14,973 75</u>
Balance .....			\$26 25
Outstanding Bills (?)			



**INFIRMARY, TWO WARDS, DINING-ROOM, PUMPING PLANT, SEWERAGE DISPOSAL  
SYSTEM FOR TUBERCULOSIS CAMP.**

		Voucher No.		
1918				
Feb.	28.	1.	To Cashier, The Commercial Bank, note authorized by General Assem- bly of 1917, for construction of buildings.....	\$20,000 00
Apr.	24.	2.	To Foster Bros. Mfg. Co., hospital casters.....	152 88
Apr.	24.	3.	To Fire Hose Co., extinguishers and straps.....	198 00
Apr.	24.	4.	To Ernest Cooper, equipments for hospital.....	274 50
Apr.	24.	5.	To Globe Dry Goods Co., equipment for sanatorium.....	153 00
Apr.	24.	6.	To F. E. Scholfield, sugar bowls.....	17 82
Apr.	26.	7.	To Wilson & Sompayrac, commission of architect on contract.....	135 35
Apr.	27.	8.	To B. F. Newman, painting old buildings.....	236 60
May	4.	9.	To B. F. Newman, painting.....	300 00
May	11.	10.	To B. F. Newman, painting old buildings at sanatorium.....	150 00
May	15.	11.	To H. W. Baker Linen Co., damask, napkins, sheets, cases.....	572 14
May	15.	12.	To J. R. Baker & Sons Co., bedside tables.....	42 40
May	15.	12.	To John V. Farwell Co., furniture and freight.....	57 56
May	25.	14.	To B. F. Newman, painting on old buildings.....	150 00
June	21.	15.	To The Cincinnati Fly Screen Co., screens for doors and windows.....	1,618 00
June	21.	16.	To Ostermoor & Co., mattresses.....	163 37
June	22.	17.	To R. L. Bryan Co., book cases.....	22 00
July	6.	18.	To C. C. C. Fire Hose Co., fire extinguishers, straps for same.....	229 93
July	6.	19.	To The Wright Co., cooking utensils.....	24 70
July	6.	20.	To R. C. Williams & Sons, mattresses, pillows, stools.....	73 50
July	6.	21.	To Foster Bros. Mfg. Co., hospital casters.....	41 10
July	6.	22.	To H. W. Baker Linen Co., damask.....	58 13
July	6.	23.	To Meinecke & Co., sanatorium supplies.....	152 59
Aug.	5.	24.	To Radcliffe & Bower, Khaki curtains installed and laundry bags.....	260 20
Aug.	5.	25.	To Southern States Supply Co., plumbing supplies and piping.....	71 52
Aug.	5.	26.	To Perry-Mann Electric Co., pump rods.....	87 30
Aug.	5.	27.	To Loric Bros., cook stove, hot plate, pipe, etc.....	52 63
Aug.	5.	28.	To Loric & Lowrance, garbage cans and truck.....	25 10
Aug.	9.	29.	To J. B. Campbell, labor on well.....	112 00
Aug.	26.	30.	To J. B. Campbell, twelve days work on well.....	96 00
Oct.	2.	31.	To H. J. Bassler Co., grates, steam boiler, express.....	27 97
Oct.	19.	32.	To W. E. Carter, labor erecting cow barn at Sanatorium.....	38 00
Oct.	21.	33.	To W. O. Martin, material and labor erecting pump house.....	541 00
Oct.	21.	34.	To W. M. Perry, supervising erection pump and pump house.....	50 55
Oct.	23.	35.	To Shand Builders Supply Co., lumber, etc.....	327 14
Oct.	26.	36.	To Loric & Lowrance, August special account.....	47 34
Nov.	1.	37.	To W. E. Carter, completion of contract—cow barn, brick work and filling in .....	66 50
Nov.	8.	38.	To Geo. E. Lafaye, services rendered, plans and specifications for pump house, etc .....	38 75
Nov.	15.	39.	To Southern Scale & Fixture Co., balance on refrigerators.....	354 43
				\$27,000 00
Appropriation .....				\$27,000 00
Expenditures .....				\$27,000 00

**CO-OPERATING COMMITTEE—WAR FUND.**

Mar.	1.	1.	To Ticket Agent, Southern Ry. Co., mileage book (form Z Z).....	\$ 43 20
Mar.	7.	2.	To Rebecca Walton, mileage book, (form Z).....	21 60
Mar.	14.	3.	To L. G. Washington, services rendered.....	8 00
Mar.	30.	4.	To Rebecca Walton, salary.....	40 00
Mar.	30.	5.	To L. G. Washington, services rendered.....	15 00
Mar.	30.	6.	To Annie I. Rembert, traveling expenses.....	23 55
Apr.	10.	7.	To Rebecca Walton, traveling expenses.....	23 85
Apr.	24.	8.	To Ticket Agent, Southern Ry. Co., mileage book (form Z).....	20 00
Apr.	30.	9.	To Annie I. Rembert, traveling expenses.....	15 64
Apr.	30.	10.	To L. G. Washington, services rendered.....	15 00
Apr.	30.	11.	To Rebecca Walton, salary.....	50 00
Apr.	30.	12.	To Rebecca Walton, traveling expenses.....	28 97
May	14.	13.	To A. I. Rembert, expenses to Atlanta, to attend conference.....	31 62
May	14.	14.	To Ticket Agent, Southern Ry. Co., mileage book.....	20 00
May	25.	15.	To J. T. McCaw, printing programs, multigraph letters and stationery..	33 05
June	1.	16.	To A. I. Rembert, expenses at Darlington hotel and transfer.....	5 00
June	1.	17.	To L. G. Washington, services rendered.....	15 00
June	1.	18.	To Rebecca Walton, salary.....	50 00
June	10.	19.	To Rebecca Walton, traveling expenses.....	40 67
June	22.	20.	To Jas. A. Hayne, Treas., board and treatment for patients at Sanatorium .....	44 00
June	30.	21.	To L. G. Washington, services rendered.....	15 00
June	30.	22.	To Rebecca Walton, salary.....	50 00
June	30.	23.	To A. I. Rembert, traveling expenses.....	6 60
June	30.	24.	To Rebecca Walton, expense account.....	19 16
July	31.	25.	To L. G. Washington, services rendered.....	15 00
July	31.	26.	To Rebecca Walton, salary.....	50 00
Aug.	3.	27.	To Rebecca Walton, traveling expenses.....	48 37

1918		Voucher No.		
Aug.	9.	28.	To A. I. Rembert, expenses to Charleston.....	16 02
Aug.	9.	29.	To Jas. A. Hayne, Treas., board and treatment for patients at Sanatorium .....	108 00
Aug.	22.	30.	To Jas. A. Hayne, Treas., board and treatment for patients at Sanatorium .....	98 00
Aug.	27.	31.	To A. I. Rembert, transfers to Camp Jackson and express on books, T. B. Ward, Camp Jackson, and assistant to T. B. patient, Raymond Page .....	5 05
Aug.	31.	32.	To L. G. Washington, services rendered.....	15 00
Aug.	31.	33.	To Rebecca Walton, salary.....	50 00
Sept.	5.	34.	To W. H. Coleman, P. M., postage stamps.....	50 00
Sept.	9.	35.	To Rebecca Walton, traveling expenses.....	45 02
Sept.	30.	36.	To Rebecca Walton, salary.....	50 00
Sept.	30.	37.	To L. G. Washington, services rendered.....	25 00
Sept.	30.	38.	To A. I. Rembert, traveling expenses.....	16 18
Sept.	30.	39.	To Rebecca Walton, expense account.....	50 68
Oct.	2.	40.	To W. H. Coleman, P. M., postage stamps.....	12 00
Oct.	2.	41.	To J. T. McCaw, printing.....	60 35
Oct.	25.	42.	To The State Co., stamped envelopes and printing.....	83 85
Oct.	30.	43.	To L. G. Washington, services rendered.....	25 00
Oct.	30.	44.	To Rebecca Walton, salary.....	50 00
Nov.	1.	45.	To J. T. McCaw, multigraphed letters, etc.....	45 75
Nov.	1.	46.	To Sargeant, photographer—photo's of Sanatorium.....	22 00
Nov.	6.	47.	To Jas. A. Hayne, Treas., board and treatment of patients at Sanatorium .....	194 00
Nov.	12.	48.	To Rebecca Walton, traveling expenses.....	45 75
Nov.	15.	49.	To Mrs. H. B. Harmon, board Raymond Page (negro T. B.).....	10 00
Nov.	16.	50.	To W. H. Coleman, P. M., postage stamps.....	50 00
Nov.	29.	51.	To A. I. Rembert, traveling expenses.....	17 73
Nov.	29.	52.	To Rebecca Walton, salary.....	75 00
Nov.	30.	53.	To L. G. Washington, services rendered.....	60 00
Nov.	29.	54.	To Jas. A. Hayne, Treas., board and treatment for patients at Sanatorium .....	394 00
Nov.	30.	55.	To Irene Covington, salary.....	100 00
Nov.	30.	56.	To Richland Co., and T. B. Camp, board for patient.....	30 75
Dec.	17.	57.	To Irene Covington, traveling expenses.....	78 68
Dec.	17.	58.	To John McCaw, printing, etc.....	49 60
Dec.	17.	59.	To Rebecca H. Walton, expense account.....	86 72
Dec.	23.	60.	To W. H. Coleman, Postmaster, stamps.....	50 00
Dec.	24.	61.	To R. H. Walton, salary.....	75 00
Dec.	24.	62.	To L. G. Washington, services rendered co-operating committee.....	50 00
Dec.	31.	63.	To W. H. Coleman, Postmaster, stamps.....	80 67

## FOLLOWING BILLS CONTRACTED IN 1918.

1919.				
Jan.	3.	64.	To Irene Covington, salary December.....	100 00
Jan.	3.	65.	To Irene Covington, traveling expenses.....	75 00
Jan.	3.	66.	To Annie I. Rembert, expense account.....	3 00
Jan.	3.	67.	To R. H. Walton, expense account, December.....	84 29
Jan.	3.	68.	To James A. Hayne, Treas., S. C. Sanatorium, board and treatment 7 patients at Sanatorium .....	257 00
				<hr/>
Jan.	17.	69.	To J. T. McCaw, supplies, letterheads, etc.....	\$3,543 35
Feb.	21.	70.	To H. W. Baker Linen Co., sheets and pillow cases.....	98 00
Feb.	21.	71.	To Foster Bros. Mfg. Co., bedsteads.....	366 19
Feb.	21.	72.	To Rhoads & Co., spreads.....	363 60
Feb.	21.	73.	To Ostermoor & Co., mattresses, pillows, burlaps.....	168 00
				<hr/>
				444 20
				<hr/>
				\$4,983 34
Appropriation .....				\$5,000 00
Expenditures .....				4,983 34
				<hr/>
Balance .....				\$16 66
Outstanding Bills (?) .....				

## EDUCATIONAL PAMPHLETS.

May	28.	1.	To Southern Ry. Co., freight on bulletins, Chicago to Columbia.....	\$ 61 37
May	28.	2.	To American Medical Association, pamphlets.....	637 00
May	22.	3.	To Dr. Thomas D. Wood, health chart.....	12 40
Dec.	4.	4.	To John Roundtree, wrapping and mailing literature during year.....	25 00
Dec.	24.	5.	To F. T. Washington, wrapping and mailing literature during year.....	25 00
Dec.	31.	6.	To W. H. Coleman, Postmaster, stamps.....	100 00



Voucher		1918		1919.		No.		FOLLOWING BILLS CONTRACTED IN 1918.		
Jan.	8.	7.	To R. L. Bryan Company, 1,000 Columbian clasp envelopes.....							15 00
		8.	To Cancelled.							
Dec.	16.	9.	To J. T. McCaw, 250 Health Folders, 1 Index and Filing Cabinet.....							22 65
										\$808 42
Appropriation .....										\$1,000 00
Expenditures .....										808 42
Balance .....										\$191 58
Outstanding Bills(?)										

Voucher		1918		No.		PRINTING, STATIONERY AND STAMPS.		
Feb.	28.	1.	To J. T. McCaw, warrant books, multigraphed letters and forms.....	\$				57 80
Feb.	28.	2.	To Cary Printing Co., circulars.....					22 00
Mar.	1.	3.	To W. H. Coleman, postage stamps.....					40 00
Mar.	9.	4.	To W. H. Coleman, postage stamps.....					40 00
Mar.	26.	5.	To W. H. Coleman, postage stamps.....					40 00
Mar.	30.	6.	To W. H. Coleman, postage stamps.....					40 00
Mar.	30.	7.	To W. H. Coleman, stamped envelopes.....					80 06
Apr.	23.	8.	To The State Co., stamped envelopes.....					330 12
Apr.	30.	9.	To W. H. Coleman, postage stamps.....					40 00
May.	18.	10.	To W. H. Coleman, postage stamps.....					40 00
May	25.	11.	To J. T. McCaw, letter heads.....					5 00
May	25.	12.	To W. H. Coleman, postage stamps.....					40 00
June	6.	13.	To J. T. McCaw, printing labels.....					2 65
June	20.	14.	To W. H. Coleman, postage stamps.....					40 00
June	24.	15.	To W. H. Coleman, postal cards.....					4 00
June	28.	16.	To W. H. Coleman, postage stamps.....					40 00
July	10.	17.	To W. H. Coleman, stamped envelopes with return address.....					3 22
Aug.	1.	18.	To J. T. McCaw, printing, postals, programs, etc.....					28 45
Aug.	5.	19.	To W. H. Coleman, postage stamps.....					40 00
Aug.	9.	20.	To W. H. Coleman, postage stamps, Dept. Venereal Disease Control....					4 00
Aug.	9.	21.	To R. L. Bryan Co., printing and stationery.....					14 50
Aug.	23.	22.	To W. H. Coleman, postage stamps.....					25 00
Aug.	29.	23.	To W. H. Coleman, postage stamps.....					23 70
								\$1,000 00
Appropriation .....								\$1,000 00
Expenditures .....								1,000 00

TRAVELING EXPENSES, STATE HEALTH OFFICER.									
Mar.	5.	1.	To Jas. A. Hayne, State Health Officer, traveling expenses.....	\$	111	10			
Mar.	21.	2.	To Ticket Agent, Southern Ry. Co., mileage book.....		40	00			
May	13.	3.	To Jas. A. Hayne, State Health Officer, traveling expenses.....		151	00			
June	21.	4.	To Jas. A. Hayne, State Health Officer, traveling expenses.....		224	69			
July	8.	5.	To Jas. A. Hayne, State Health Officer, traveling expenses.....		93	82			
Aug.	14.	6.	To Jas. A. Hayne, State Health Officer, traveling expenses.....		153	01			
Nov.	7.	7.	To Jas. A. Hayne, State Health Officer, traveling expenses.....		67	56			
Nov.	16.	8.	To Southern Ry. Co., W. S. Scrip Book.....		30	00			
Nov.	26.	9.	To Ticket Agent, Southern Ry. Co., W. S. Scrip Book.....		30	00			
Dec.	6.	10.	To Ticket Agent, Southern Ry. Co., W. S. Scrip Book.....		60	00			
Nov.	25.	11.	To Traveling expenses, Charleston.....		8	81			
								\$999	99
Appropriation .....				\$1,000	00				
Expenditures .....					999	99			

Voucher		1918		No.		EXPENSES STATE BOARD OF HEALTH.		
Feb.	19.	1.	To W. W. Dodson, M. D., expenses to special meeting of Executive Committee .....	\$				40 60
Feb.	19.	2.	To C. C. Gambrell, M. D., expenses to special meeting of Executive Committee .....					33 40
Feb.	19.	3.	To E. A. Hines, M. D., expenses to special meeting of Executive Committee .....					42 60
Feb.	19.	4.	To Robert Wilson, Jr., M. D., expenses to special meeting of Executive Committee .....					34 00
Feb.	19.	5.	To Wm. Eggleston, M. D., expenses to special meeting of Executive Committee .....					23 00
Feb.	19.	6.	To W. M. Lester, M. D., attendance to special meeting of Executive Committee .....					4 00
Mar.	1.	7.	To Williams & Wilkins Co., subscription to the Journal of Bacteriology .....					5 00
Mar.	11.	8.	To American Medical Association, The Journal A. M. A.....					5 00

Voucher		No.			
1918	Mar.	12.	9.	To C. C. Gambrell, M. D., expenses to meeting of Sub-Committee of Executive Committee.....	33 40
	Mar.	12.	10.	To Robert Wilson, Jr., M. D., expenses to meeting of Sub-Committee of Executive Committee.....	34 00
	Mar.	12.	11.	To W. M. Lester, M. D., attendance to meeting of Sub-Committee of Executive Committee.....	4 00
	Mar.	12.	12.	To Wm. Egleston, M. D., expenses to meeting of Sub-Committee of Executive Committee.....	17 60
	Mar.	14.	13.	To Columbia Medical Society, State and County dues.....	10 00
	Mar.	16.	14.	To Wm. Lester, M. D., attendance to meeting of Committee on Applications for admittance of patients to Sanatorium.....	4 00
	Mar.	19.	15.	To D. Appleton & Co., book, Preventive Medicine and Hygiene.....	50 50
	Apr.	20.	16.	To Wm. Lester, M. D., expenses to annual meeting of Executive Committee.....	31 00
	Apr.	22.	17.	To E. A. Hines, M. D., expenses to annual meeting of Executive Committee.....	46 40
	Apr.	22.	18.	To Wm. Egleston, M. D., expenses to annual meeting of Executive Committee.....	42 00
	Apr.	22.	19.	To W. W. Dodson, M. D., expenses to annual meeting of Executive Committee.....	55 00
	Apr.	26.	20.	To D. B. Frontis, M. D., expenses to annual meeting of Executive Committee.....	12 60
	Apr.	26.	21.	To C. C. Gambrell, M. D., expenses to annual meeting of Executive Committee.....	47 40
	May	20.	22.	To J. B. Lippincott Co., books.....	14 00
	June	21.	23.	To C. C. Gambrell, M. D., expenses to special meeting of Executive Committee.....	33 40
	June	21.	24.	To Wm. Egleston, M. D., expenses to special meeting of Executive Committee.....	26 50
	June	21.	25.	To Robt. Wilson, Jr., M. D., expenses to special meeting of Executive Committee.....	34 00
	June	21.	26.	To W. M. Lester, M. D. attendance to special meeting of Executive Committee.....	4 00
	June	21.	27.	To D. B. Frontis, M. D., expenses to special meeting of Executive Committee.....	16 00
	June	21.	28.	To W. W. Dodson, M. D., expenses to special meeting of Executive Committee.....	40 60
	June	21.	29.	To E. A. Hines, M. D., expenses to special meeting of Executive Committee.....	42 60
	June	29.	30.	To C. C. Gambrell, M. D., attendance to special committee with Council of Defense regarding health work.....	33 40
	June	29.	31.	To E. A. Hines, M. D., attendance to special committee with Council of Defense regarding health work.....	42 60
	July	11.	32.	To Wm. Egleston, M. D., expenses to quarterly meeting of Executive Committee.....	23 60
	July	11.	33.	To W. M. Lester, M. D., attendance to quarterly meeting of Executive Committee.....	4 00
	July	11.	34.	To C. C. Gambrell, M. D., expenses to quarterly meeting of Executive Committee.....	33 40
	July	11.	35.	To E. A. Hines, M. D., expenses to quarterly meeting of Executive Committee.....	42 60
	July	11.	36.	To W. W. Dodson, M. D., expenses to quarterly meeting of Executive Committee.....	40 60
	July	11.	37.	To D. B. Frontis, M. D., expenses to quarterly meeting of Executive Committee.....	16 00
	Aug.	1.	38.	To Wm. Egleston, M. D., expenses to special meeting of Executive Committee.....	37 40
	Aug.	1.	39.	To W. W. Dodson, M. D., expenses to special meeting of Executive Committee.....	44 60
	Aug.	1.	04.	To C. C. Gambrell, M. D., expenses to special meeting of Executive Committee.....	33 40
	Aug.	1.	41.	To Robt. Wilson, Jr., M. D., expenses to special meeting of Executive Committee.....	42 00
	Aug.	5.	42.	To E. A. Hines, M. D., expenses to special meeting of Executive Committee.....	46 60
	Aug.	8.	43.	To Medical Insurance, subscription to Journal.....	4 00
	Aug.	9.	44.	To J. B. Lippincott Co., U. S. Dispensary Ind. "book".....	12 50
	Aug.	9.	45.	To American Medical Association, subscription to Journal.....	5 00
	Aug.	9.	46.	To W. M. Lester, M. D., two days services rendered.....	8 00
	Aug.	23.	47.	To Southern Medical Association, current dues.....	3 00
	Sept.	20.	48.	To E. A. Hines, M. D., expenses to special meeting of Executive Committee.....	42 60
	Sept.	20.	49.	To W. W. Dodson, M. D., expenses to special meeting of Executive Committee.....	40 60
	Sept.	20.	50.	To Wm. Egleston, M. D., expenses to special meeting of Executive Committee.....	33 40
	Sept.	20.	51.	To Robt. Wilson, Jr., M. D., expenses to special meeting of Executive Committee.....	38 00
	Sept.	20.	52.	To D. B. Frontis, M. D., expenses to special meeting of Executive Committee.....	16 00



Voucher			
1918	No.		
Nev.	1. 53.	To D. Appleton & Co., one set Med. & Surg. cloth. "books".....	28 20
Nov.	7. 54.	To Robt. Wilson, Jr., M. D., expenses to quarterly meeting of Executive Committee .....	41 10
Nov.	7. 55.	To E. A. Hines, M. D., expenses to quarterly meeting of Executive Committee .....	42 60
Nov.	7. 56.	To W. W. Dodson, M. D., expenses to quarterly meeting of Executive Committee .....	40 60
Dec.	19. 57.	To E. A. Hines, M. D., expenses sanitary inspection Medical College, Military Academy, Winthrop and S. C. Colored Normal & Industrial College .....	91 50
Dec.	19. 58.	To Wm. Egleston, M. D., expenses to quarterly meeting of Executive Committee .....	33 40
Dec.	19. 59.	To Robt. Wilson, Jr., M. D., expenses to quarterly meeting of Executive Committee .....	38 00
Dec.	19. 60.	To E. A. Hines, M. D., expenses to quarterly meeting of Executive Committee .....	52 60
Dec.	19. 61.	To W. W. Dodson, M. D., expenses to quarterly meeting Executive Committee .....	40 60
Dec.	19. 62.	To D. B. Frontis, M. D., expenses to quarterly meeting Executive Committee .....	16 00
Dec.	19. 63.	To W. M. Lester, M. D., expenses to quarterly meeting and sanitary inspection of Penitentiary, State Hospital, Old Soldiers' Home, and Boys' Reformatory.....	17 60
Dec.	19. 64.	To Subscription American Journal Public Health.....	5 00
Dec.	21. 65.	To State Company, books for Nurses' Library.....	53 13
Dec.	21. 66.	To Lea & Febiger, subscription American Journal Medical Sciences....	5 00
Dec.	21. 67.	To Subscription The American City.....	3 00
Dec.	31. 68.	To The State Company, one Tuberculosis Nurse.....	1 50

FOLLOWING BILLS CONTRACTED IN 1918.

1919.			
Jan.	3. 69.	To Columbia Medical Society, State and County dues.....	10 00
Jan.	6. 70.	To Wm. Egleston, M. D., expenses inspection Boys' Reformatory, Florence, S. C.....	13 00
Jan.	6. 71.	To Daggett Printing Company, envelopes and letter heads for State Chemist, Charleston, S. C.....	25 25
Jan.	6. 72.	To Stamps Correspondence Public Water Supplies.....	22 34
Jan.	21. 73.	To Journal of the Outdoor Life.....	3 50
Feb.	1. 74.	To Ruth N. Bradley, extra help preparing annual report.....	29 15
			\$1,999 59
Appropriation .....			\$2,000 00
Expenditures .....			1,999 59
Balance .....			\$0 41

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